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INTERDISCIPLINARY ANALYSIS AND REFLECTION OF INCLUSION STUDIES

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The monograph presents an interdisciplinary analysis and reflection on research in inclusion. The authors offer an interpretation of the various research findings for practitioners. The book goes on to describe a multi-dimensional approach to inclusion and integration, which has proven to be in demand and applicable in the best international strategies for inclusion. The material in the book is notable for the intensity of the author's scientific and practical approaches and requires interaction with their developers in the case of project implementation. Selected contributions from the book form part of the authors' first joint monograph, *Diversity and Benchmarking for Inclusion*, which was published earlier. The book presents the results of research with involved participants in inclusion projects carried out by the authors in Slovakia, Austria and other countries.

The materials in the monograph are of an applied nature, addressed to researchers of inclusion, special educators, rehabilitation therapists and psychologists. The materials of the book can be applied in regional education systems in higher teacher education modules to train teacher educators for inclusive systems. The theoretical part is relevant to the activities of international research teams. The practical materials can be used in educational organisations and centres and in work with children and adults with special needs and their families. The materials in this book can be applied to conceptual strategies for organising inclusive living environments in any region of the world.

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The authors' foreword

We are aware of the changes in the lives of people all over the world, and we do not want to ignore them. Therefore, we decided that the main event of our interaction will be associated with the writing and publication of author's monographic descriptions in world languages dedicated to inclusion and interdisciplinary reflection of scientific research in inclusion. We will be glad if colleagues from different parts of the world read about our experience in a language they can understand.

Each of the authors has her own scientific opinion and professional experience in the issues of management of inclusive systems in regional education, in the issues of intellectual integration in the system of vocational and additional vocational education. Each of us has gone our own way as a researcher, manager and organizer of international project research in the study of the multidimensionality and diversity of inclusion and integration. These paths are also valuable because both authors have learned professional experience at every stage of their careers: from teacher and psychologist, head of department and laboratory to the head of the institute and director of large-scale international projects.

You have already read our first book "Diversity and Benchmarking Inclusion" (<https://phsreda.com/e-publications/e-publication-10319.pdf>)? In it, we summarized our joint publications for the period from 2014 to 2021, described some of the practices of our work. We invited readers to reflect on the idea and implementation of the European project "Learning without restrictions" in the branding system of the regions of the world, on the use of benchmarking technology in the search for the world's best practices of inclusion and integration; on the problem of the faith of parents of children with disabilities in the effectiveness of practical methods that inclusive systems offer today; on the phenomenon of dyssynchronous, unbalanced and "borderline" forms of human development; on models that balance the desired and the actual in the therapeutic, pedagogical and social practice of inclusion.

In the second book “Interdisciplinary Analysis and Reflection of Inclusion Studies”, which we are publishing in 2022, it became important for us to present to the reader the results of some studies and practices carried out in cooperation between university laboratories and special and inclusive schools and centers for children with developmental disabilities.

For both of us, the ability of specialists and everyone who needs to be accompanied by the peculiarities of their health to show personal sanogenic behavior is of great importance. Sanogenic behavior is that kind of behavior that involves taking care of one’s physical and mental state, about one’s body, so that with its help one can, through daily activity, translate one’s higher aspirations into “products” of the real world: material, social and spiritual.

In our opinion, such behavior contributes to: the mental well-being of a person, the formation and development of the inner world of his creativity and resonant co-creation with others, the ability to take care of himself and others, providing social and psychological support to both relatives and strangers, the ability to volunteer and missionary work in its various manifestations and formats. It’s like hugging someone else. In fact, we are talking about the spiritual component of individual and public health, the basis of which is the human conscience and spirituality of a person, regardless of which part of the world he lives in.

In our dialogues, we have repeatedly talked about what human behavior contributes to health and what behavioral patterns can increase the likelihood of diseases, injuries or premature death. Together we have been searching for answers to numerous questions about the pedagogy and psychology of empathy for many years. In this case, the meaning is timely assistance to people with disabilities from family members, competent specialists, volunteers and all those who find themselves with them in difficult life situations.

A special topic of reflection in our first monograph was the topic of “time running” into the digital space during the Covid pandemic (period 2019-2021). We were isolated for two long years.

While corresponding with each other and preparing our latest articles for publication, we often talked about the possibilities and limitations in the use of digital technologies in the practice of correctional work with children and adults, about the cooperation of specialists of helping professions with IT specialists, about the technologies of training teachers and psychologists for regional inclusion systems in the “digital region” system – digital university”, about the advanced training of doctors and teachers on the synchronization of professional techniques and practical tools, and, finally, about the specifics of psychological support for family members in which people who need help for health reasons live.

We came to the conclusion that for both of us, living Covid-time has become an experience of loss. We have both lost people close to us of the older generation. Both of us, as managers, provided security and assistance to colleagues of the older generation, and this localized our idea of the multidimensionality of human existence even in conditions of Covid-restrictions. We did not “complain” about the digital space in which, like all university teachers, we found ourselves, but rejoiced at the “window into life”! We can say that this digital window, which in an instant became tangible both for us and for many university colleagues and inclusion specialists, was personified, filled with a certain meaning and deep feelings. In one of our meetings in such a “window” we talked about a new format of human existence, our own existence and a new space of interaction. At least for us, this “window” opened not just the possibility of remote work, but also revealed a new understanding of the world that we all began to live in a new communication space. It is necessary to clearly distinguish the possibilities of participation, for example, in online flash mobs, from the possibility of using the Internet space for development; and that digital technologies also have their own criteria for security, privacy; and that “digitization” and “digital imitators”, which quickly filled Internet niches, are very different from a digital product in the context of the social values of human health and/or its rehabilitation and, as before, are based on the responsibility and value of a person’s personality.

It seems important to note in the expanded preface to our second book that, on the one hand, the “digital window” united us in conditions of restrictions and ideological isolation. On the other hand, it created the danger of “digital individualism”, the spread of fakes. There has been and is increasing the accumulation of data about a person “in one digital hands”, such as “recording windows” for doctors’ appointments, obtaining documents, consultations, choosing trajectories of training tasks and courses, test results and analyses, medical histories through personal cabinets with an incredible number of passwords, control words and other security attributes, QR-codes. Moreover, all this has become a “pass” to live communication, to purchases and opportunities.

We want to draw attention again and again to the fact that the system of inclusion and integration of a person has come to need digital mentors who would help to understand all this and not drown “in the depths of usefulness” of new forms of interaction. The fact of “cognitive illusions” is also interesting. We drew attention to this by analyzing dialogues with specialists and family members of those who need help due to health restrictions. We are faced with an unexpected effect: people evaluate the quality of life situation, including in the digital interaction space, much better than it is “closer” to them. In a sense, we are talking about assessing your situation an order of magnitude higher than the rest. That is, people with disabilities assume that they are somehow worse or better, but still cope with the situation, while there are so many troubles and sorrows around the world, including those aggravated by the Covid pandemic and the period of geopolitical and ideological conflicts.

In Yaroslav Hasek’s novel “The Good Soldier Švejk” there are words that reflect the reality of time extremely accurately: “It has never been so that nothing happened.” But natural wisdom, under the guise of naivety, helped Švejk not to lose heart and find a way to preserve himself in the events taking place. Is it worth it or not worth believing that the world will be the same? Oddly enough, the intervention of the Covid pandemic and geopolitical conflicts dispelled some illusions and created others. In the texts of the

monograph, we tried to talk as realistically as possible about the problems of multidimensional inclusion and integration, to find a diplomatic context between a personalized view and general trends. But did they find it?

A little more about the first book and what we were able to do in its second edition in English. The first book consisted of three chapters. The first chapter is written for managers. It examines issues relevant to the management of inclusive systems in the regions and for project management, based on the ideas of the European program “Education without Restrictions”. The emphasis is on inclusion and integration as a multidimensional system that requires an understanding of the technology of intellectual integration. Together with experts, we describe in this chapter the possibilities of management strategies for cooperation with territorial and international professional organizations and associations of specialists in the field of inclusion and with regional administrative authorities. An integral part of the first chapter is the idea of step-by-step intellectual integration of regional programs into the international inclusion system based on benchmarking. We also found it necessary to discuss how branding strategies can be implemented in regions that care about preserving human capital and how benchmarking can help in regional strategies to improve the quality of life of people with special needs.

We finished the first chapter of the first book with discussions about the asynchronisms of the possibilities of using digital learning methods in inclusion. We expressed our opinion on how correctional teachers, methodologists and psychologists can cooperate with digital mentors-specialists in the field of computer modeling of individual techniques. Of course, it is of particular concern that many imitators have appeared in inclusive education systems that are not able to provide specialists with a full-fledged digital product for correctional and developmental work with children with special health opportunities, including in rehabilitation and habilitation programs. We shared our thoughts with readers, starting a discussion on this topic.

Both in the first and in the second book, in the second chapter, we offer the reader a description of the neurodynamic strategy in the implementation of special pedagogy programs, which is still in demand by practitioners involved in the rehabilitation of children with cerebral paralysis (cerebral paralysis). Since 2014, our joint efforts have been aimed at making the “Hand-Brain” program, which was first created at the EPSYNEL European psycho-neuro-educational laboratory at the Faculty of Education at Comenius University Bratislava, known to inclusion specialists in Europe and beyond. A great merit in this belongs to Dr. Anatoly Smolyaniov, PhD, who left us so early. It was his activity and selfless dedication to science that became the basis for the “Hand – Brain” program to become applicable “without borders” and as many families as possible learned about its possibilities. And this was the first experience of our work in an international team of specialists. Getting together, we moved from one European region to another to help families of children with musculoskeletal problems. In the same chapter, we also focused on the application of a neurodynamic strategy for modeling the speech of children with cerebral paralysis.

The third chapters of both books are devoted to interdisciplinarity, diversity and benchmarking of inclusion research and practices. We describe the experience and reflect, identify the results of research. In our first book, we described the experience of creating an architectural environment and the balance between contact and distant elements of the environment. In fact, without limiting generality, we expressed doubt that not every declared accessible environment is such. Creating a full-fledged accessible environment is a “sore spot” in many regions. This is upsetting but leads to the conclusion that municipalities and construction companies should think about an integrated approach to creating “accessible” spaces in educational and social organizations, in urban space in the context of the full-fledged possibility of modern architecture of public space and in dialogue with specialists in correctional pedagogy, psychology and rehabilitation. The openness and accessibility of such spaces is the key to cooperation and

communication of people with diverse health opportunities and its limitations due to illness, age, the results of recovery, rehabilitation and recovery. The topic, in our opinion, is very relevant.

Perhaps the most important for us were those parts of the materials where we describe our personal professional experience as researchers and as practitioners. We drew readers' attention to resonant technologies of psychological assistance, the method of resonant co-creation and its applicability in the comprehensive rehabilitation of children with Rett syndrome. By the way, we recall our first scientific report on this topic and the productive scientific discussion around it at the World Congress on Rett Syndrome in 2016. Perhaps for the first time we have made attempts to describe the possibilities of using the "green" method of park retreat, to remind the reader about the possibilities of recreational methods for restorative medicine, balneology, rehabilitation, human ecology. We got inspiration for this from colleagues from Salzburg, our "Salzburg fairies", as we call them – the most amazing anthroposophical teachers Natalia Kharitonova (teacher of Russian as a foreign language and specialist in chiropnetics), Sieglinde Wendt (director of Paracelsus-Schule Salzburg, head of many seminars on special issues of correctional and social pedagogy, anthroposophical master of the candle workshop) and Ilse Hönig (teacher of eurythmy). We express special words of gratitude to Dr. Danilovichyute Elyana and specialist who left us so early. Dr. Anatoly Smolyaniov, PhD who have devoted many years of their professional life to the development of a neurodynamic method to help children with cerebral paralysis.

We drew inspiration and depth both directly and indirectly. So, our live communication (Sibgatullina-Denis I.) and correspondence acquaintance (Vančova A.) with the leaders and volunteers of "VIGOR" played a great role. VIGOR is a Latvian public organization of people who have suffered a stroke, their relatives, caring people who are ready to provide them with the necessary psychological support. Communication with the head of the Society, Master of Pedagogy Marina Kuznetsova, Doctor of Psychology Natalia Ivanova and Taiga Kantane made it possible to touch the

problems of psychological support for stroke patients in a special, not only logical, but sensual way, the possibilities of their recovery after a stroke, returning them to the joy of being with others.

We thank the Masters of pedagogy Lana Teriaeva-Maerz and Lina Embacher for their inspired help in the general edition of the monograph, translator of the publishing house “Sreda” for the methodic and professionalism and translator of the text about the practice of the teacher Natalia Kharitonova – Maria Kharitonova. To our reviewers Doctor of Special Pedagogy professor Miroslava Bartonova (Czech Republic), to Doctor of Psychotherapy Alla Kirsha (Germany) and Natalie Miner (Portugal). Also, words of gratitude for timely comments and a proposal to publish a monograph in German and Slovak later.

It was important for us to work in collaboration with the involved experts on individual materials of the book. Our university colleagues JUDr. Kečkéšová Marta, PhD; Dr. Merzon Elena, PhD; Shterts Olga, PhD; Uscakov Ilya, Mag. Ushakova Snezana; Danilovichyute Elyana, Mag. Tatarinova Oksana, PhD; PaedDr. Harčaričková Terézia, PhD; Mgr. Nagyová Kristína, PhD; PaedDr. Prečuchová Štefanovičová Andrea, PhD; Chaldyshkina Natalia, PhD; Zaytseva Marina. They not only became participants in joint experimental work, but also independent developers of scientific research programs. We hope that it was a useful experience of cooperation for all of us. We also thank those who invited us to their research as involved experts.

And the most important words we say to our doctors of life: to our moms, the best moms in the world. Together with our fathers, they taught us to be friends, to be faithful to our profession, to reflect and believe in the best. Everything we have done in the profession and are still doing is also about universal maternal and paternal patience. It is also of great importance that in scientific activity we work in reliable teams of researchers who have devoted their lives to inclusion and training of teaching staff to work in this field. We thank all our colleagues and are glad that we always have the opportunity to discuss and hear the opinions of experienced colleagues.

So, we offer you a monographic description of interdisciplinary research in inclusion. Analysis of scientific results of university research and experiments of special pedagogy, psychology and rehabilitation medicine. Reflection of innovations in the management of inclusive systems. Convergence of inclusive systems of the world as achievement of the goal of sustainable development.

Alica Vančová, Irene Sibgatullina-Denis

CHAPTER 1

INTERDISCIPLINARY INCLUSION

1.1 Grade of vector of analysis of inclusive identity

One of the important ways to ensure the socio-psychological conditions of personal development is the implementation of practical preventive technologies that regulate the development of dyssynchrony. The first paragraph of the book presents an announcement on the review of the scientific paradigm of the development of an inclusive personality. Thus, we take care of strengthening the methodological support of personality research, including in the inclusion system. The authors follow the understanding of the phenomenon of dyssynchrony of mental development as a mismatched state of systems of interrelated mental phenomena at a certain moment of development, imbalance of cognitive, emotional, volitional, somatic and other aspects of development (P. Mercha, I. Sibgatullina-Denis, 2002; A. Vančova, 2021).

The problem of the study of inclusive personality in the general paradigm of the theory of dyssynchrony of personality development is determined by the inconsistency of information about the phenomenon of dyssynchrony presented in the world theoretical models of general and special psychology and correctional pedagogy. Inclusion needs to be integrated with general psychology in order to carry out integrative scientific reviews of paradigms and studies of an inclusive personality in the system of some inconsistencies of its development in the conditions of actual changes in human life associated with the disease. The purpose of such reviews is to analyze and identify paradigms of the theory of dyssynchrony in the mental development of a person of the twentieth century and the first third of the XXI century, which determined the trends of priority of world scientific schools in the study of the systemic properties of the psyche of a holistic personality and an inclusive personality, in particular, in the structure of intellectual abilities, assessed from the point of view of the presence of psychological barriers to development and leading to dyssynchrony. The proposed review may be intended to strengthen the scientific

ic theoretical training of inclusion teachers and psychologists in international master's degree programs, methodological support for practical teachers and practical psychologists working in inclusion education or rehabilitation.

The object of the study is an inclusive person, who is increasingly spreading today in the educational, social and psychological space, and is the main figure of an inclusive environment. Inclusion specialists have long pointed out the lack of his narrow understanding as a person who deviates from the norm and has limited health opportunities, including mental. This also applies to people suffering from rare diseases and so-called "affected" intellectuals (for example, those who have experienced a stroke, heart attack and other "sudden" illnesses). That is, those people who suffered from the problem of illness "against the background of health" and who, almost instantly, lost the possibility of a full-fledged quality of life, and sometimes the will to a normal "switched on" life.

The analysis of the words "inclusion" and "inclusive" leads to such a main parameter of an inclusive person as "inclusiveness", implying "embeddedness" in being, preoccupation with it and intentionality about it. It is these qualities that entail the process of active "embedding" in the life process, as a result of which the personality feels the "echo" of being and responds to it, showing personal participation (E. Yakovleva, 2015). In the study of the phenomenon of dyssynchrony of inclusive personality, the authors propose to use methods of analytical review of fundamental scientific medical, psychological and pedagogical literature and to search for materials in various information databases RSCI, WoS, SSRN (social science research network), DLFra (depository Library Fra Universite de Paris Sorbonne), PHAIDRA (depository Library, depository of scientific libraries of European universities), ERICH PLUS and others. Keywords for the search were the words: asynchronism, asynchrony, dyssynchrony, asynchronism(e), dyssynchrony(-ie), inclusive personality, inclusive personality, inclusive person. Preliminary keyword searches already show the difference between publications in psychological,

medical and pedagogical areas. The task of university specialists is to evaluate and systematize the material relevant to the purpose of the review and integrate the “intersection” of university research into the practice of inclusion.

The theoretical and methodological basis consists of classical and non-classical theories that set the gradients of branches in the study of the phenomenon of personality dyssynchrony: paradigms of the process-activity approach to development (S.L. Rubinstein), the dynamic theory of giftedness and asynchrony (L.S. Vygotsky), theories of structural analysis (L. Shertok, J. Lokan), the doctrine of the spontaneous barrier of development and existence (E. Legube, J.-P. Sartre), the theory of development risk (A. Dufurmantel), the theory of individual differences (B.M. Teplov, D. Todd, P. Mersha), the phenomenon of dyssynchrony (P. Mersha, V.N. Druzhinin, I. Sibgatullina-Denis, O. Riabov, J.-S. Terrassier, A. Vančova). The mechanism of interaction of internal and external determination of the mental development of the intellectually gifted (B.M. Teplov, J. Derrid), the ratio of internal and external determination in the context of the provision on self-referential systems (V.D. Shadrikov, E. Rudinesco), the representation of intellectual giftedness as a socio-cultural phenomenon (A.M. Matyushkin, L. Todd), the possibility of psychosomatic origin of dyssynchrony (A. Vančova, I. Sibgatullina-Denis, L. Teriaeva-Maerz, L. Shertok). To date, we have proposed an assessment of the mental development of an inclusive personality, from the point of view of the presence of psychological barriers that complicate and, or mismatch its manifestations and lead to dyssynchrony (I. Sibgatullina-Denis, A. Vančova, J.-Ch. Terrassier). The etiology of dyssynchrony is shown, manifested in the mismatched state of systems of interrelated mental phenomena, in the imbalance of cognitive, emotional, physical components of development, the model of overcoming dyssynchrony and determining its coefficient (I. Sibgatullina-Denis, V. Potapova, O. Riabov, J.-Ch. Terrassier, P. Mercha). The scientific novelty is represented by the model of determining the properties and characteristics of paradigms of the modern theory of dyssynchrony of mental development

in the psychology of inclusive personality through a detailed descriptive analysis of scientific attitudes of the concept of heterochrony of development, concepts and terms of the theory of dyssynchrony, analysis of methods of modern interdisciplinary research. In conclusion, the significant contribution of university researchers to the development of the theory of dyssynchrony is revealed; the features of an inclusive personality are considered not as determining the level of intelligence, but as a developing systemic property of the psyche of an integral personality in the structure of resilience, general abilities, characterized by various ways of adapting to living conditions and “setting” the individual appearance of the subject of inclusion, evaluated from the point of view of overcoming psychological barriers and the ability to be “included” in the coexistence of Life.

References 1.1:

1. Sibgatullina-Denis I., Vančova A., Riabov O., Tatarinova O. The gradient of the research vector of inclusive personality in developmental dyssynchrony theory paradigms. Actual issues of personality self-development: psychological and pedagogical aspect: Proceedings of the scientific-practical conference, Yoshkar-Ola, May 19, 2022. Cheboksary: Sreda, 2022. URL: <https://phsreda.com/e-articles/10384/Action10384-102521.pdf>
2. Vančová A., Sibgatullina-Denis I. Diversity and benchmarking for inclusion [monograph]. Cheboksary: Sreda, 2021, 208 p. URL: <https://phsreda.com/e-publications/e-publication-10319.pdf>
3. Zakirova L.M., Komarova L.Yu., Sibgatullina-Denis I., Tatarinova O.. Inclusive interaction in working with children with special learning needs. Proceedings of II International Conference on Advances in Science, Engineering and Digital Education - ASEDU-II 2021, October 28, 2021, pp. 1021-1030. URL: <https://conf.domnit.ru/en/materials/asedu-2021/>

1.2 Process of educational and social inclusion – analytical view of legal rules in Slovakia from the perspective of dimension of social and legal protection of children

The principle of legal protection of children is identified in all areas of law with regard to the specific range of its interest. In the area of the Family law relations, that principle resonates primarily in the provisions of Act No. 36/2005 Coll. on the Family and on change and amendment of certain acts as amended (hereinafter referred to only as “Act No. 36/2005 Coll.”) and Act No. 305/2005 Coll. on social and legal protection of children and social guardianship, as amended (hereinafter referred to only as “Act No. 305/2005 Coll.”), governing the right of minors to education, especially in the family environment. It can be concluded that the basic legal status of minors is set up in Family law. We can not miss out, that there is a child protection legislation also within the Social security law, Criminal law, Labour law as well as within the legislation regulating education, health and so on. The attention has to be focused also on system of rules of the administrative law and Civil law, used primarily by intervention of the competent authorities in time, in case of a threat or violation of the rights of minors (decisions of authorities of social protection of children and social guardianship, court decisions).

In particular, the cooperation between the experts, no matter whether from the area of law or related non-legal disciplines, streamlines the process of social protection of children. Due to this cooperation, the objective can be achieved, which is, mainly, functioning of the family as the natural and appropriate environment for the child’s upbringing. Socially inappropriate environment usually affects and even can even negate efforts to reeducate the child. Even the positive influencing between the parents and children may lead to the reeducation. However, there are phenomena, which depend of the means of intervention do not bring any success, as far as the positive changes are concerned in their most complexed meaning.

Also in our contribution, we are focusing on interventional procedures, through which the undesirable events, which negatively affect the child development and education, might be prevented.

Law as part of the protection of rights and freedoms. The law is an integral part of the life of every person. It is an instrument that regulates relations throughout the society. It consists of a wide range of rights and obligations, which bind not only individuals, but also the whole society. Therefore and, it can be considered an integral part of our being and formation of behavior. Its effect causes the regulation of social relations, not only in terms of moral and ethical principles, but also in terms of enforceability of behavior in those relations.

The basic principles, which are applied within the law and each legal rule, are mainly the principles of legality, but also solidarity, subsidiarity, participation, social justice, and so on. The principle "What is not forbidden is allowed" confirms the binding force of law and legislation. Various institutions and institutions that supervise the protection of the rights and freedoms of members of society are legitimated to enforce of law. According to the authors Kusin, Šebestová, Drábiková (2015, p. 23), between the morality and legal obligation exists discrepancy. The moral obligation is dependent on human subjectivity, that is on "ethically qualified moral will of the subject, which covers conscience; it not legally determined, but is determined by human qualities of moral will. Legal dimensions of responsibility are directed "out" into action, decisions defined by law. "

An individual, in relation to society, performs his basic functions and one of those functions is the reproductive function. The reproductive function is characterized by a social unit - the family, which is the basis of society and is under its protection. Family performs important functions, therefore there is given particular attention to the protection of the family in terms of law. Protection of the family is regulated within the international documents (the Convention on protection of children), adopted and ratified by the Slovak Republic, as well as national legislation of which

has a particularly important role the Constitution of the Slovak Republic (hereinafter referred to only as “Slovak Constitution”). Slovak Constitution in Art. 41 guarantees the protection of family and gives particular attention to the protection of children and minors. This provision of the Slovak Constitution that governs the basic rights and duties of parents, the possibility of their limitations, as well as the right to assistance from the state. Other legal rules in field of family and children protection are within the legislation of lower legal force, in particular Act no. 36/2005 Coll. and Act no. 305/2005 Coll. and other legislation of a procedural nature (Act no. 71/1967 Coll. on administrative proceeding (Administrative Procedure Code), as amended, hereinafter referred to only as the “Administrative Procedure Code”, Act no. 99/1963. - Civil Procedure Code, as amended, hereinafter referred to only as “CPC”). The importance of implementation the laws into practice by the children’s rights protection is thus the direct realization via acceptance, as well as their practical application in the form of issuing individual legal acts. The fact that in Slovak republic, there is given a particular attention to the legislation on social protection of children and social custody, is documented and presented in a table of statistical indicators of the Ministry of Labour, Social Affairs and Family for the previous period 2010 to 2015.

Tab. 1

| | 2010 | | 2011 | | 2012 | | 2013 | | 2014 | |
|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | families | children | families | children | families | children | families | children | families | children |
| The number of new cases during the reporting year | 26754 | 30376 | 22789 | 31802 | 21446 | 29159 | 20159 | 32990 | 21337 | 30357 |
| The number of cases during the year for which Social protection arrangements have been made | 128703 | 193257 | 121553 | 184079 | 120501 | 178240 | 78049 | 109503 | 59172 | 87560 |
| The number of cases at the end of the reporting period | 229640 | 342259 | 224432 | 338085 | 216466 | 325163 | 203664 | 292965 | 181203 | 255328 |

Dimension of social and legal the protection. The social and legal protection is presented by two concepts. The first part of the concept is social protection, and the other part is legal protection. It refers to the protection of the relations within the society by the means of law. Specification of the concept of social and legal protection is stipulated in § 1 of the Act no. 305/2005 Coll. Quot-

ed law defines social and legal protection of children and social guardianship as a set of measures and instruments which serves to 'ensure the prevention of crisis situations in the family, protection of rights and legitimate interests of children, prevention of deepening and repetition of failures in mental, physical and social development of children and adults and to prevent the rise of social pathological phenomena “.

Continuous link between the Act no. 305/2005 Coll. and in particular the Act. 36/2005 Coll., as well as other relevant legislation, not only in field of Family law (Administrative Procedure Code, CPC) shows its fixed linking the various sectors both public and private law. Above all, there is implemented the Convention on the Rights of the Child (hereinafter referred to only as “the Convention”) within its provisions, as well as other international documents, for example The European Convention and the Convention on Protection of Children and Cooperation in Respect of Intercountry Adoption (Notification of the Ministry of Foreign Affairs of the Slovak Republic no. 380/2001 Coll.), Convention on the Civil Aspects of International Child Abduction (Notification of the Ministry of Foreign Affairs of the Slovak Republic no. 119/2001 Coll.), which the Slovak republic committed to respect and which documents guarantee the protection of the rights and interests of children. Therefore, the Act. 305/2005 Coll. can be considered a product of the National Programme of social protection as a result of the conclusions of the Lisbon European Council in 2000 on the modernization of social protection systems.

Act no. 305/2005 Coll. is based on three basic premises. In the first premise, the protection of the child in line with his best interests in relation to the Convention, is guaranteed. Based on the Convention, which has the character of an international document, in particular this document stresses the child's best interests. Stated principle implemented into all national laws of lower legal force, considers a family environment to be the universal model for the child. The family environment forms the emotional, moral, social and cultural basis of the child. The child in the family receives basic patterns of behavior, emotional stability and

ability to shape healthy interpersonal relationships. The quality of family ties belongs to the fundamental determinants affecting child development. Changes of the values in the society, the rapid way of life, changing relations in the field of labour market, extreme mobility, cosmopolitan population, leaving the traditional wide family, too tolerant attitudes and so on, are the factors that contribute to the growth of negative phenomena in the area of family relations. Healthy family environment positively affects the child, while troubled family in terms of behavioral pathology affected by defects of the marital relationship, or family unable to emotional saturation, does not create an environment for social maturation of the child and his health interpersonal relationships. Despite of the fact, that the family is ontogenetic oldest context of human being, it is hard to substitute the natural family environment to children by any other form of care.

The goal of the second premise is the aim of the competent authorities to create a new environment for the children, who can not be brought up in natural family environment, in a quality of natural family environment. It is indisputable that the family and sibling bonds play in a child's life an important role. Selection of the substitute environment for a child, that would fully respect his best interests, as stated in the Convention, means selection of such a family environment that would remove any undesirable effects of a negative nature, which the child brought from the natural family environment. The best interest of the child, as a fundamental principle of the Convention, as well as the legal term "best interests of the child" contained in the legislation governing family relations has not been clearly defined until the amendment to Act no. 175/2015 Coll. has been adopted. By its nature, however, it presents the different elements that play in a child's life an important role, for example the possibility of the child to express freely its opinion on the matter, the possibility of contact with his close environment, healthcare, access to education, protection from violence and superiority of the family environment to substitute environment and so on. In conclusion, the best interests of the child shall be considered in terms of the individual child's

needs to create an environment that would saturate in addition to the basic needs, the specific needs of the child. Best interests of the child is to create an environment that would ensure his physical and mental health for the purpose of positive mental development, as well as the development of his personality, in area of morality, ethics, education and social relations. According to Art. 5 of the Amendment to Act no. 36/2005 Coll.:

“The primary factor by decision-making proces about all matters concerning the child, is to consider his interest interest. When identifying and assessing the interest of the minor, shall consider in particular

- a) the level of childcare,
- b) the safety of the child, as well as safety and stability of the environment in which the child resides,
- c) protection of the dignity as well as mental, physical and emotional development of the child,
- d) the circumstances related to the health condition of the child or a child with disabilities,
- e) a threat to the child’s development caused by infringement of his dignity and a threat to the child’s development caused by affecting the mental, physical and emotional integrity of the person who is the child’s close person,
- f) conditions to maintain the identity of the child and to develop skills and talents of the child,
- g) the child’s opinion and possibility of its exposition to the conflict of loyalty and consequent feeling of guilt,
- h) conditions for the creation and development of relationship bonds with both parents, siblings and other close relatives,
- i) use of available resources to maintain the child’s family environment when considering the interference with parental responsibility “.

Especially the inability to create these conditions in a natural family environment is creating the scope for upbringing and care by the subjects with the competence to carry out actions in accordance with the current legislation. Although the current legislation consider also institutions of insitutional care to be the

alternate environments (personal care, foster care, institutional care), this form is rarely used. When choosing a suitable form of alternative care, it is necessary to proceed not only in accordance with the current legislation, but also very sensitive approach, at least in relation to the child and his rights, has to be chosen, to carry out the actions in a way to avoid inadequate reactions of the child.

If the child is so intellectually (mentally) mature to be capable of assessing the importance of implemented measure, it is necessary to consider also the opinion of the child himself. Removing of the child from the natural family environment and his placement in institutional type of institution for social and legal protection and social guardianship, is used only if all other possibilities has been used to eliminate undesirable effects of family environment and other forms of alternative care would not be effective.

Within the third premise, it is necessary to focus on prevention, that means to prevent any undesirable effects that would result in defects of the physical, mental and social development of the child. Prevention is one of the most progressive, as well as the most commonly used instruments for the protection of children's rights. In terms of previous legislation, Act no. 195/1998 Coll. on social assistance as applied until the effectiveness of the Act no. 305/2005 Coll., the social prevention has been defined in § 5 as a "set of measures for preventing and eliminating the causes, broadening or repetition of failures in mental, physical or social development of citizens." The content of the mentioned provision is transformed into the § 1 ods. 1 of the current legislation. Forms of prevention are focused on both the search, correctional, rehabilitation, social reintegration activities, as well as the organization, programs and other activities to prevent family crisis situations.

Especially the area of family law relations it is characterized by one of the principles of law, the principle of solidarity. The principle of solidarity is stipulated in the Act. 36/2005 Coll. Solidarity between family members is a fundamental principle of its cohesion and it is not only a legal duty, but also a moral obligation

of the family members. It is the relation between the subject of obligation and the corresponding beneficiary of the right to perform the duties set up by law. Solidarity between members of the family relations is considered to be a group solidarity. In the past, it was limited only to filiation. Those are the relations based on the family relations, because they are dealing with the problems of the family members, in contrary to inter-group, respectively global solidarity as for example the solidarity in social security. Solidarity is a product of moral maturity of its entities, as well as well as its social background - social inequality.

The principle of solidarity is stipulated in Art. 4 of the Basic principles of family law, which provides: "All family members have an obligation to help each other and according to their ability and capacity to provide improving the material and cultural standards of the family." The article in question of the fundamental principles is transformed into other provisions of Title III of the quoted Act, where there the solidarity in the family relations is clearly defined in § 19. The Act in that provision already by the marriage set up the obligation of the spouses to satisfy the family's needs jointly and severally. Family solidarity, which is the solidarity in relation to the close person, does not solve only a problem of the individual, but also a problem of whole family. In the given case it is the primary solidarity, because family members know each other, they have to each other close family relations that come out from the family ties. The family is not only a center of primary solidarity, but also the secondary solidarity, which is dependent on the structure of interpersonal relationships and the society as a whole (volunteering, on the other hand the social security law system - insurance system, state social support, social assistance).

Important role in area of solidarity has also the upbringing of the children. Prosocial behavior should be built from an early age of child. Therefore the family environment can be considered to be a fundamental pillar in which the child acquires skills of pro-social behavior - sharing of the common toys, solidarity bonds of the parents and grandparents and so on.

Solidarity, as a fundamental principle in every social formation, however, is not limited only to close persons, but above all to the whole society. According to Giddens the solidarity shall be built on three pillars, namely the state, the market and the civil society Keller (2006, p. 143).

In our opinion, the ideal state of society would have been identified in relation to solidarity, provided that solidarity is not determined by reciprocity.

Author sees the quality of pro-social behaviour in mutual cooperation of the three components of responsibilities, what leads to self-regulation. He can not therefore be considered as an advocate of regulation only via legislative actions done by the state. Despite the various differences of opinion there is no question that the state is the main guarantor, who has an obligation to support vulnerable groups in society, including in particular families with minor children, persons with health disabilities and other groups which are most dependent on secondary solidarity.

Economic security of families is one of the important factors that affect the smooth functioning of the family. The bad economic situation of the family raises tensions. The unfavorable economic situation in the family arises due to the family and work imbalance. Čavojská (2015) in the category of disadvantaged job-seekers, dependent on active labor market policy, includes also the jobseekers caring for children before the end of compulsory education. Unemployment of a parent or even both parents is not only the result of the malfunctioning of ensuring the basic needs of the family, but causes undesirable tensions in family relationships, which may lead into alienation. This condition is a significant contributor in formation of negative educational environment, what is the cause, but also a result of when the competent authorities of child protection and social care have a duty to intervene in the parental education and childcare. According Bánovčinová (2014, p. 406) researches „(e.g. Dogde et al, 1994; Gedbery, Bodnářová and Filadelfiová, 2007; Currie and Stabile, 2003, etc.)“ showed that poverty and its consequences in the family affect the ability of parents “to enter into a warm and encouraging interac-

tion with their children and increase the risk of negative or punitive behavior". It may be said that in the economic situation of the family shall not be held responsible only family members, but also state, that affects the functioning of the family through its social and family politics. On the other side, the family with its biological function affects the population policy of the state within which to deal with current demographic problems.

Preventive measures, the mean of protecting children's rights. Pavelková and col. (2009, p.7) defines upbringing as "right and duty to govern the conduct of a child, to use the appropriate means in order not to affect the dignity of the child and in any way harm his health, his mental, physical, emotional, intellectual and moral development, and to exercise supervision over the child corresponding to the degree of his development. "The law understands under the term upbringing, the development as physical as well as mental abilities of the child. Upbringing, however, is a wider range of rights and duties, compared with personal care, which provide the child with basic needs. The term upbringing consists, in addition to the normal needs of the child, of granting the right to emotional development, intellectual development, health care, influence its behavior, childcare and education, decisions about the child, as determined by Art. 41 of the Constitution, § 178 paragraph. 1 CSP, as well as Art. 29 paragraph. 1 of the Convention on the Rights of the Child. Therefore, a proper attention is given to the upbringing not only in terms of theory, but also in terms of legislation in force. Despite all the efforts, in the natural family environment, it is necessary to take measures, that is such interventions in favour of the child, which will eliminate the negative impact of some of the family members or the family as a whole. If necessary and if it is in the interest of the child, it can be used as one of the types of measures aimed at isolating the child from negative influences (in the case if the child is left without any care, danger to life or health of a child - torment, abuse).

But this is a breach of the rights of the child only unless clearly necessary, because modern progressive trends have their place also in protecting the interests of the child, which can be con-

firmed by finding new, but also the upgrading of existing educational methods and programs enshrined in existing legislation (Act no. 305/2005 Coll.). Given the practice is questionable whether it is desirable to create differentiation criteria for creating new concepts of educational programs, which form the basis for the preventive protection of the child in the framework of existing legislation. By setting criteria for the evaluation of educational programs for the purpose of removing the social causes of the failure of those responsible for the upbringing of the child, the level of protection of children's rights should be increased, as illustrated by the data of the survey of the table of the Ministry of Labour, Social Affairs and Family of Slovak republic.

Tab. 2

| | | Group programs | | | | | | | | | |
|--|--------------------------------------|------------------------|---|------------------------|---|------------------------|---|------------------------|---|------------------------|---|
| | | 2010 | | 2011 | | 2012 | | 2013 | | 2014 | |
| | | the number of children | the number of involved parents repps. persons who personally caring for a child | the number of children | the number of involved parents repps. persons who personally caring for a child | the number of children | the number of involved parents repps. persons who personally caring for a child | the number of children | the number of involved parents repps. persons who personally caring for a child | the number of children | the number of involved parents repps. persons who personally caring for a child |
| Educational group program | | 222 | 75 | 215 | 120 | 192 | 114 | 298 | 264 | 283 | 119 |
| | undertaken by the office | 12 | 0 | 9 | 0 | 0 | 0 | 6 | 6 | 7 | 0 |
| thereof | undertaken with the alternative care | 210 | 78 | 206 | 120 | 192 | 114 | 292 | 258 | 276 | 119 |
| Social group program | | 154 | 66 | 239 | 199 | 251 | 142 | 145 | 98 | 186 | 36 |
| | undertaken by the office | 10 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 0 |
| thereof | undertaken with the alternative care | 144 | 57 | 239 | 199 | 251 | 142 | 145 | 98 | 163 | 36 |
| Educational and recreational group program | | 765 | 298 | 820 | 486 | 708 | 342 | 614 | 361 | 518 | 177 |
| | undertaken by the office | 25 | 59 | 24 | 0 | 0 | 0 | 0 | 0 | 16 | 0 |
| thereof | undertaken with the alternative care | 740 | 277 | 796 | 468 | 708 | 342 | 614 | 361 | 502 | 177 |

We can conclude that the fault behavior in individuals is influenced by biological premises, that is the genetic equipment, family environment, as well as the fact that parents are not able to fully fulfill their parental role, but also the social environment (its value system, the nature of ideology, economic potential) that either with its tolerance or negative impact disrupts or hinders the normal child development. Authors Olah and Roháč (2008) place importance on the protection of minors in educational, legal, psychological and sociological aspects. Both legislation and practice prefer preventive measures to repressive measures to protect the rights of minors.

For implementing preventive measures, it is necessary for its implementation also the material means, in addition to professional supervision. Prevention is dependent on state power, market and civil society, as well as on the forecast of the institution concerned, which deals with those issues. To create the balance between the governmental, the private and the non-profit sector and to begin its active participation in running the prevention programs on child protection and co-creation of the conditions for the implementation of preventive measures, it is essential to have a financial coverage. It is necessary to support the efforts of individuals to solve the current problems of the Society. Problems of families with minor children are enhanced by new phenomena such as unemployment, low income, lack of access to housing, one of the parents work abroad and other objective causes that threaten the integrity of the family and thus the upbringing and care of children.

Although terms of the legislation in force, the conditions for the protection of children's rights from a methodological point of view, within the forms and methods, and the approaches to work with children at risk of social pathological phenomena has been improved, it can be observed imbalance in respect of preventive measures as means to prevent these phenomena and repressive practices.

Causes, as well as the consequences can be sought precisely in insufficient economic conditions of families with minors, that do not allow them to visit organized free-time activities filling up the free time during the child's parent's workload. Especially the of the centers is multisource. State participates in the financing of accredited centers, in amount of 80% of the proven costs.

Institutions with skilled professionals, who are working with young people constitute one of the main mechanisms of prevention among children. Therefore, the activities within the competence of the state policy towards youth shall be welcomed, which lead to the creation of leisure centers whose establishment, which establishment is governed by Act no. 282/2008 Coll. on support of the work with youth and on the amendment of Act

no. 131/2002 Coll. on universities and on amendments to certain acts as later amended by the Act no. 375/2013 Coll. Funding.

Despite all preventive measures, parents not always fulfill their parental duties in relation to minor children. The reasons may be of an objective as well as subjective character. The situation can be resolved by the decision of the authority for social protection and social guardianship ordering the educational measures in accordance with § 12 of Act no. 305/2005 Coll. or in accordance with the § 37 of Act no. 36/2005 Coll. The lawmaker determines the conditions under which the competent authority may impose educational measures to avoid the negative behavior of the the child, whose behavior violates the rights of others, that are, the individuals or society as a whole, as well as the behavior of the child's parents that negatively affect child development. Parents or legal person to whom the child was entrusted to the personal care, as well as other individuals that interfere in education and childcare, can influence a child's upbringing by thier conduct, but also by their passivity, that is, failure to perform their duties or abuse of their rights in relation to the child.

From the point of view of the procedures mentioned above, the competent authority, which is the Court, as well as the authority of child protection and social guardianship, may impose educational measures to the child or his parents or person holding the child in his custody by a court decision. The Act no. 36/2005 Coll. within the provisions of § 37 may order given educational measures so that:

- "Shall warn young child, his parents and individuals whose behavior threaten or interfere the child's proper upbringing in appropriate manner,

- Decide about the minor's upbringing supervision; supervision is carried out mainly in cooperation authority for social and legal protection of children, municipalities, schools, non-governmental actors and institution in which the minor child is placed,

- impose to a minor child restriction in a limited extent necessary for the prevention andto avoid harmful influences which may endanger or disrupt his positive development; compliance

of the imposed restriction is supervised by the cooperation of the municipality,

- impose to a minor child and his parents the duty to undergo social counseling or other expert advice. “

If necessary in the interest of the child, because the educational measures did not lead to reparation, the court shall take a child away from parents or person who has the child in his custody and shall order to stay for the period no longer than six months in a institution that provides the specialised diagnostics, or in case of drug or other addictions shall arrange a specialised help within the same time period in institution, which provides the re-socialization programs to implement a resocialisation programs.

Court is entitled to impose to the person responsible for the child's upbringing, a cooperation with the institutions and other entities that provide the social and legal protection of children, or other duty. Court monitors the effectiveness of educational measures in cooperation with all entities competent in the field (authority for social and legal protection and social custody, municipality, non-governmental body, the relevant institution).

Competences of the authority of child protection and social custody in the field of educational measures are stipulated in § 12 of Act no. 305/2005 Coll., as well as Act no. 453/2003 Coll. on state administration in the field of social affairs, family and employment services and on amending and supplementing certain acts as amended. The authority of social and legal protection of children and social custody can impose the following educational measures:

“a) warns, in an appropriate manner, the child, the child's parents or the person who has a child in custody, if their behavior may threaten or disrupt the positive mental development, physical development and social development of the child,

b) imposes to the child to undergo the diagnosis of specialized ambulatory care, if it is necessary to apply adequate measures of social and legal protection of children and social custody for children and the diagnosis can not be provided by other means,

c) imposes the duty to the child to participate in treatment in specialized ambulatory care,

d) imposes the duty to the child to participate in an educational program or social program. “

To the parents or to the person having a child in his custody, the competent authority for social and legal protection and social custody may impose a duty to cooperate with the institutions and other entities that perform social and legal protection of children, or other duty.

Warning of the child, child's parents or other person in whose care the child is, is an used educational measure for less serious violations of rights and duties. Professional diagnostics in specialized ambulatory institutions is used in case of defects of the behavior of the child, or the consumption of narcotics and psychotropic substances.

To the expert diagnosis is related also another form of educational measure - treatment in specialized ambulatory care. It refers to the treatment of addictions in ambulatory institutions set up for this purpose.

The authority of social and legal protection and social custody can impose, the same as the court, a duty to cooperate with the relevant institutions, as an other appropriate duty in favour of the child's rights.

Participation in educational or social program is a commonly used measure in the case of a child who lives in unsuitable family environment, whether in terms of hygiene, social contacts and so on. The bodies of social and legal protection and social custody, which organize educational programs with an individual focus on specific excluded groups (Roma community, physically disadvantaged people and so on.) offer a child, as his parents specific activities that affect not only the child, but comprehensively the family as a whole. Educational measure may be carried out by the body social and legal protection of the child and social custody itself, municipality, as well as an accredited entity.

Division of competences in the field of educational measures between the court and the authority of social and legal protection and social custody may seem redundant. It can not, however, omit to think about, what reason had the lawmaker when setting

up this manner of distinguishing the measures addressed to both parents, as well as to the child. Even the co-operation of the court with authorities of social and legal protection and social custody in tracking the effectiveness of educational measures ordered by the court itself, gives room for better implementation of educational measures.

The provision of the § 13 Act no. 305/2005 Coll. widens the circle of entities that may be involved in meeting the objectives of educational measures. In addition to the authority for social and legal protection and social custody, the municipalities, towns, cities and autonomous regions contributes to those measures as well within the defined competencies. It may also be an accredited entity, an individual or a legal person who has acquired competencies in the accreditation procedure.

Educational measures are more of preventive nature, although their punitive character can not be denied. A legal duty is to review the purpose of educational measures in the time period specified in the Act. If the competent authority finds that educational measures do not fulfill the purpose for which they were ordered, may restrict the rights of the child and his parents by some other measure.

Educational measures can be considered as preventive measures to prevent the exclusion of the child from the family environment, as illustrated by the table and the number of ordered forms of educational measures in relation to both the parents as well as minor children.

Institutional care – a form of alternative care. From the current legislation it is clear, that the authority of social and legal protection and custody is obliged to provide all conditions for proper physical and social development, especially there where the family environment failed to the extent that it is at risk of physical and mental development of the child and from this reason the “solution of the childcare can not be postponed “(§26 paragraph. 2 of Act no. 305/2005 Coll.). As a threat it is considered also the fact that the child is left without any care of parents, legal guardians or persons established by a court decision. Placement of children outside the biological families is a measure of social protection

Tab. 3

| Educational measures | | | | | | | | | | | | | | |
|--|-----------|--|--|------------------------------|--|--|--|-----------|----------|--|--|------------------------------|--|----------------------------------|
| | 2010 | | | | | | Contribution of alternative care | 2011 | | | | | | Contribution of alternative care |
| | number of | | | | | | | number of | | | | | | |
| | children | from that from the reason of the social custody from the column no.1 | parents, or the persons who have the child in their care | imposed educational measures | cancelled educational measures | | | number | children | from that from the reason of the social custody from the column no.1 | parents, or the persons who have the child in their care | imposed educational measures | cancelled educational measures | |
| together in current year | | | | | from that from the column no.5 imposed in previous years | together in current year | from that from the column no.5 imposed in previous years | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| a) Educational measures imposed by the body of social and legal care and social custody (SPOD) according to the Act no. 36/Z005 Coll. on family | 431 | 323 | 214 | 326 | 162 | 36 | 102 | 233 | 159 | 200 | 202 | 168 | 93 | 64 |
| Warning | 202 | 149 | 166 | 164 | 85 | 21 | 2 | 105 | 80 | 130 | 105 | 99 | 45 | 3 |
| Duty to take part in treatment in specialised ambulatory care | 3 | 2 | 7 | 3 | 0 | 0 | 0 | 2 | 1 | 1 | 2 | 16 | 16 | 14 |
| Duty to take part in educational or social program | 207 | 167 | 0 | 151 | 73 | 13 | 100 | 100 | 68 | 67 | 79 | 47 | 29 | 40 |
| Duty to undertake specialised diagnostics in specialised ambulatory care | 10 | 5 | 15 | 8 | 5 | 1 | 0 | 16 | 10 | 2 | 16 | 6 | 3 | 7 |
| b) Educational measures imposed by the SPOD according to the Act no. 36/Z006 Coll.on Family | 358 | 227 | 266 | 258 | 199 | 116 | 9 | 312 | 193 | 194 | 223 | 145 | 84 | 15 |
| Warning | 111 | 102 | 131 | 104 | 74 | 46 | 1 | 87 | 84 | 86 | 74 | 64 | 38 | 0 |
| Supervision | 225 | 106 | 125 | 131 | 116 | 69 | 8 | 212 | 99 | 108 | 134 | 78 | 44 | 13 |
| Restriction | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Duty to undertake social counseling and specialised advise in spec. institutions | 22 | 19 | 10 | 23 | 7 | 1 | 0 | 13 | 10 | 0 | 15 | 3 | 2 | 2 |
| Together educational measures imposed by the SPOD (a+b) | 789 | 550 | 480 | 584 | 361 | 152 | 111 | 535 | 352 | 394 | 425 | 313 | 177 | 79 |
| c) Educational measures imposed by the court | 605 | 215 | 267 | 348 | 199 | 129 | 41 | 748 | 345 | 334 | 497 | 232 | 179 | 17 |
| Warning | 33 | 7 | 37 | 12 | 2 | 2 | 3 | 64 | 49 | 38 | 48 | 8 | 4 | 6 |
| Supervision | 382 | 91 | 137 | 182 | 91 | 82 | 23 | 428 | 135 | 168 | 256 | 140 | 122 | 7 |
| Restriction | 3 | 2 | 2 | 2 | 2 | 0 | 1 | 1 | 2 | 1 | 1 | 0 | 0 | 0 |
| Duty to undertake social counseling and specialised advise in spec. institutions | 20 | 9 | 27 | 16 | 10 | 6 | 1 | 60 | 15 | 66 | 37 | 7 | 10 | 3 |
| Stay in institution of specialised diagnostics | 121 | 72 | 48 | 95 | 68 | 28 | 10 | 109 | 83 | 38 | 90 | 47 | 26 | 7 |
| Stay in specialised institutions | 16 | 8 | 6 | 12 | 17 | 5 | 0 | 45 | 28 | 12 | 31 | 17 | 8 | 0 |
| Stay in socialisation center for drug addicted people | 30 | 25 | 10 | 29 | 9 | 4 | 4 | 41 | 34 | 10 | 34 | 13 | 9 | 0 |
| | 2012 | | | | | | Contribution of alternative care | 2013 | | | | | | Contribution of alternative care |
| | number of | | | | | | | number of | | | | | | |
| | children | from that from the reason of the social custody from the column no.1 | parents, or the persons who have the child in their care | imposed educational measures | cancelled educational | | | number | children | from that from the reason of the social custody from the column no.1 | parents, or the persons who have the child in their care | imposed educational measures | cancelled educational | |
| | | | | | together in current year | from that from the column no.5 imposed in previous years | together in current year | | | | | | from that from the column no.5 imposed in previous years | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| a) Educational measures imposed by the body of social and legal care and social custody (SPOD) according to the Act no. 36/Z005 Coll. on family | 374 | 197 | 266 | 255 | 176 | 59 | 75 | 394 | 179 | 136 | 247 | 159 | 60 | 80 |
| Warning | 231 | 111 | 184 | 159 | 120 | 37 | 14 | 267 | 85 | 126 | 152 | 110 | 38 | 4 |
| Duty to take part in treatment in specialised ambulatory care | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | x | 0 | 0 | 0 | 0 |
| Duty to take part in educational or social program | 132 | 77 | 72 | 87 | 51 | 21 | 58 | 117 | 87 | x | 85 | 44 | 22 | 75 |
| Duty to undertake specialised diagnostics in specialised ambulatory care | 11 | 9 | 10 | 9 | 4 | 0 | 2 | 10 | 7 | x | 10 | 5 | 0 | 1 |
| b) Educational measures imposed by the SPOD according to the Act no. 36/Z006 Coll.on family | 334 | 193 | 148 | 228 | 141 | 78 | 5 | 479 | 162 | 34 | 243 | 123 | 59 | 9 |
| Warning | 84 | 68 | 59 | 59 | 58 | 34 | 0 | 70 | 35 | 29 | 49 | 33 | 16 | 2 |
| Supervision | 211 | 86 | 71 | 131 | 71 | 38 | 5 | 378 | 119 | x | 164 | 86 | 42 | 4 |
| Restriction | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | x | 0 | 0 | 0 | 0 |
| Duty to undertake social counseling and specialised advise in spec. institutions | 39 | 39 | 18 | 38 | 11 | 6 | 0 | 31 | 8 | 5 | 30 | 4 | 1 | 3 |
| Together educational measures imposed by the SPOD (a+b) | 708 | 390 | 414 | 483 | 317 | 137 | 80 | 873 | 341 | 170 | 473 | 282 | 120 | 76 |
| c) Educational measures imposed by the court | 799 | 347 | 88 | 541 | 257 | 152 | 22 | 696 | 320 | 71 | 489 | 195 | 130 | 24 |
| Warning | 25 | 22 | 24 | 30 | 6 | 3 | 0 | 21 | 9 | 12 | 14 | 5 | 1 | 0 |
| Supervision | 517 | 139 | 14 | 293 | 132 | 97 | 5 | 424 | 153 | x | 263 | 99 | 75 | 12 |
| Restriction | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | x | 1 | 0 | 0 | 0 |
| Duty to undertake social counseling and specialised advise in spec. institutions | 59 | 8 | 50 | 37 | 22 | 11 | 4 | 79 | 18 | 59 | 68 | 18 | 13 | 2 |
| Stay in institution of specialised diagnostics | 111 | 97 | 0 | 101 | 56 | 19 | 5 | 83 | 72 | x | 70 | 36 | 16 | 3 |
| Stay in specialised institutions | 27 | 23 | 0 | 24 | 16 | 6 | 1 | 28 | 18 | x | 20 | 15 | 5 | 1 |
| Stay in socialisation center for drug addicted people | 60 | 58 | 0 | 56 | 25 | 16 | 7 | 60 | 49 | x | 53 | 22 | 20 | 6 |

Tab. 4

| Educational measures | | | | | | | |
|--|-----------|--|--|------------------------------|--|--|----------------------------------|
| | 2014 | | | | | | Contribution of alternative care |
| | number of | | | | | | |
| | children | from that from the reason of the social custody from the column no.1 | parents, or the persons who have the child in their care | imposed educational measures | cancelled educational together in current year | from that from the column no.5 imposed in previous years | number |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| a) Educational measures imposed by the body of social and legal care and social custody (SPOD) according to the Act no. 36/2005 Coll. on family | 375 | 277 | 62 | 239 | 149 | 79 | 106 |
| Warning | 193 | 139 | 62 | 119 | 97 | 42 | 2 |
| Duty to take part in treatment in specialised ambulatory care | 0 | 0 | x | 0 | 0 | 0 | 0 |
| Duty to take part in educational or social program | 174 | 130 | x | 112 | 47 | 34 | 104 |
| Duty to undertake specialised diagnostics in specialised ambulatory care | 8 | 8 | x | 8 | 5 | 3 | 0 |
| b) Educational measures imposed by the SPOD according to the Act no. 36/2006 Coll. on family | 425 | 273 | 46 | 209 | 134 | 81 | 3 |
| Warning | 65 | 60 | 32 | 52 | 39 | 15 | 0 |
| Supervision | 339 | 196 | x | 137 | 86 | 61 | 2 |
| Restriction | 1 | 1 | x | 1 | 1 | 0 | 0 |
| Duty to undertake social counseling and specialised advise in spec. institutions | 20 | 16 | 14 | 19 | 8 | 5 | 1 |
| Together educational measures imposed by the SPOD (a)+b)) | 800 | 550 | 108 | 448 | 283 | 160 | 109 |
| c) Educational measures imposed by the court | 709 | 469 | 36 | 471 | 200 | 144 | 7 |
| Warning | 27 | 24 | 10 | 18 | 10 | 6 | 0 |
| Supervision | 470 | 273 | x | 267 | 105 | 87 | 5 |
| Restriction | 0 | 0 | x | 0 | 0 | 0 | 0 |
| Duty to undertake social counseling and specialised advise in spec. institutions | 66 | 27 | 26 | 53 | 30 | 22 | 2 |
| Stay in institution of specialised diagnostics | 90 | 90 | x | 80 | 34 | 14 | 0 |
| Stay in specialised institutions | 13 | 13 | x | 10 | 6 | 3 | 0 |
| Stay in resocialisation center for drug addicted people | 43 | 42 | x | 43 | 15 | 12 | 0 |

if all other options to avoid negative impacts on the child has already been used.

With the court decision on placement of the child outside the family environment does not end the duty of the authority of

social and legal protection and social custody to work with the family of the child and to participate in the rehabilitation of the family environment in order to return the child back to the natural family environment. The statistical data shows that the selection of a particular institution for the placement of children under the implementation of the court decision is given by law in force. However, the court on the basis of documents, finding out the real situation of the case, shall decide on the particular form and particular institution to which the child is placed.

Court when deciding about the custody of the child takes into consideration factors such as sibling ties, but also to the fact that affects parental contact with the child after placement (distance of the institution from the parents) in order to maintain family ties.

Tab. 5

| | 2011 | | | | | | | | | | 2012 | | | | | | | | | | 2013 | | | | | | | | | | 2014 | | | | | | | | | | | | | | | | | |
|---|---|---|--|--|-------------------------------------|---|---|--|--|-------------------------------------|---|---|--|--|-------------------------------------|---|---|--|--|-------------------------------------|---|---|--|--|-------------------------------------|---|---|--|--|-------------------------------------|------|------|------|------|------|-------|------|------|------|------|------|-------|------|------|------|------|------|------|
| | the number of children during the year considered | the number of new placements of children during the year considered | termination of the care situation to December 31 of the year considered, the number of children together | number of visits in the families(during the custody care in institutions) | the number of visits in institution | to the January 1 of the year considered | the number of new placements of children during the year considered | termination of the care situation to December 31 of the year considered, the number of children together | number of visits in the families(during the custody care in institutions) | the number of visits in institution | to the January 1 of the year considered | the number of new placements of children during the year considered | termination of the care situation to December 31 of the year considered, the number of children together | number of visits in the families(during the custody care in institutions) | the number of visits in institution | to the January 1 of the year considered | the number of new placements of children during the year considered | termination of the care situation to December 31 of the year considered, the number of children together | number of visits in the families(during the custody care in institutions) | the number of visits in institution | to the January 1 of the year considered | the number of new placements of children during the year considered | termination of the care situation to December 31 of the year considered, the number of children together | number of visits in the families(during the custody care in institutions) | the number of visits in institution | to the January 1 of the year considered | the number of new placements of children during the year considered | termination of the care situation to December 31 of the year considered, the number of children together | number of visits in the families(during the custody care in institutions) | the number of visits in institution | | | | | | | | | | | | | | | | | | |
| Crisis centers | 166 | 337 | 199 | 223 | 584 | 515 | 254 | 356 | 146 | 270 | 575 | 558 | 273 | 336 | 171 | 241 | 450 | 570 | 222 | 329 | 131 | 258 | 212 | 391 | 166 | 337 | 199 | 223 | 584 | 515 | 254 | 356 | 146 | 270 | 575 | 558 | 273 | 336 | 171 | 241 | 450 | 570 | 222 | 329 | 131 | 258 | 212 | 391 |
| Resocialisation centers | 38 | 40 | 33 | 45 | 111 | 90 | 43 | 62 | 42 | 60 | 143 | 120 | 60 | 51 | 52 | 63 | 103 | 169 | 53 | 49 | 42 | 59 | 60 | 128 | 38 | 40 | 33 | 45 | 111 | 90 | 43 | 62 | 42 | 60 | 143 | 120 | 60 | 51 | 52 | 63 | 103 | 169 | 53 | 49 | 42 | 59 | 60 | 128 |
| Diagnostic centers | 40 | 73 | 54 | 43 | 111 | 90 | 46 | 101 | 61 | 75 | 171 | 130 | 60 | 67 | 72 | 42 | 141 | 110 | 30 | 62 | 41 | 38 | 62 | 58 | 40 | 73 | 54 | 43 | 111 | 90 | 46 | 101 | 61 | 75 | 171 | 130 | 60 | 67 | 72 | 42 | 141 | 110 | 30 | 62 | 41 | 38 | 62 | 58 |
| Homes of social services | 344 | 3 | 51 | 290 | 349 | 342 | 231 | 0 | 50 | 182 | 273 | 368 | 181 | 3 | 36 | 147 | 236 | 208 | 149 | 0 | 39 | 109 | 116 | 171 | 344 | 3 | 51 | 290 | 349 | 342 | 231 | 0 | 50 | 182 | 273 | 368 | 181 | 3 | 36 | 147 | 236 | 208 | 149 | 0 | 39 | 109 | 116 | 171 |
| Foster homes | 4098 | 887 | 999 | 4033 | 5326 | 4471 | 4266 | 967 | 1007 | 4358 | 5992 | 8777 | 4342 | 936 | 1015 | 4426 | 4359 | 8129 | 4280 | 790 | 866 | 4351 | 3002 | 8330 | 4098 | 887 | 999 | 4033 | 5326 | 4471 | 4266 | 967 | 1007 | 4358 | 5992 | 8777 | 4342 | 936 | 1015 | 4426 | 4359 | 8129 | 4280 | 790 | 866 | 4351 | 3002 | 8330 |
| Redeucation centers US | 626 | 177 | 252 | 565 | 1136 | 949 | 537 | 197 | 199 | 565 | 1108 | 1086 | 552 | 162 | 197 | 530 | 946 | 981 | 510 | 152 | 237 | 439 | 843 | 807 | 626 | 177 | 252 | 565 | 1136 | 949 | 537 | 197 | 199 | 565 | 1108 | 1086 | 552 | 162 | 197 | 530 | 946 | 981 | 510 | 152 | 237 | 439 | 843 | 807 |
| Redeucation centers OV | 45 | 45 | 10 | 57 | 89 | 86 | 53 | 13 | 19 | 52 | 115 | 107 | 54 | 10 | 21 | 42 | 66 | 61 | 43 | 15 | 16 | 39 | 47 | 52 | 45 | 45 | 10 | 57 | 89 | 86 | 53 | 13 | 19 | 52 | 115 | 107 | 54 | 10 | 21 | 42 | 66 | 61 | 43 | 15 | 16 | 39 | 47 | 52 |
| Institutions for the execution of the decision together | 5357 | 1579 | 1598 | 5256 | 7704 | 6550 | 5430 | 1696 | 1524 | 5571 | 8377 | 11146 | 5522 | 1565 | 1564 | 5491 | 6301 | 10228 | 5287 | 1397 | 1372 | 5293 | 4332 | 9937 | 5357 | 1579 | 1598 | 5256 | 7704 | 6550 | 5430 | 1696 | 1524 | 5571 | 8377 | 11146 | 5522 | 1565 | 1564 | 5491 | 6301 | 10228 | 5287 | 1397 | 1372 | 5293 | 4332 | 9937 |

§ 54 of the Act no. 36/2005 Coll. regulates institutional care with taking into account the interests of the child. The quoted legislation in § 54 in paragraph 3 stipulates that “a serious threat or serious disruption of upbringing of the minor are not considered poor housing conditions or financial circumstances of the parents of a minor child.”

This is a new provision amended with effect from 1/1/2016 within the recodification of Act no. 36/2005 Coll., which does not consider a serious threat to be the problems with housing or financial situation of families, which undoubtedly has an impact on a young child. It may be discussed, however, whether inadequate housing, and economic situation indeed endanger the health and life of the child, that is whether those reasons can not be regarded as seriously endangering the child's upbringing. The actual practice shows that inadequate housing conditions and financial situation of families with minor children are involved in the health damage of minors, cause even their death (fires when using unsuitable radiators in unsuitable housing areas, poor housing conditions in shelters without heating, without heat insulation, unfavorable conditions for the preparation for school, truancy, etc.).

As already mentioned, law understands under the upbringing the development as physical as well as mental abilities of the child. The concept of upbringing is a wide range of not only rights but also duties of parents in relation to the child and to his needs. It is clear, that the term also includes the provision of adequate housing and nutrition and all needs related to the child's needs.

It is believed that it would be more acceptable if the lawmaker adds to the mentioned provision the phrase "unless the law provides otherwise", while subsequent provisions would regulate the conditions under which housing and financial circumstances are considered to be a serious threat or serious impairment of the child's upbringing. Existing provisions of the Act evokes an interpretation that parents can stay with a child in unhealthy and abusive conditions, also do not need to provide a child any economic needs and thus they do not violate the right of the child to proper upbringing.

Perhaps the opinion can be expressed that the legislation and its application brings into the practice many question marks, whether its provisions are consistent with the best interests of the minor child and that just under a misinterpretation can violation of children's rights happen.

Legislation and practice confirms that a healthy family climate is essential for a smooth and trouble-free child development. Therefore, the effort to current legislation in the field of social and legal protection also ensures a family environment that will meet all legally required attributes of the proper upbringing of the child. Another considerable element, which in addition to the family environment influences the child's upbringing, is the wider environment in which the child resides. Therefore, reflection of the wider environment (school, leisure activities, cultural events, as well as groups with risk behavior) in which the child moves, can be as positive as well as negative factors for his upbringing and may even be a risk factor due to the nature of the group.

In this context it should be mentioned that the Family Act and the Act. 305/2005 Coll. authorise to execution of parental rights both parents, regardless of whether they are married or not. The Society puts this condition to both parents, despite the fact that a healthy family environment may be at risk if the parents do not live together. Common household of the parents, as the most suitable model for raising children, may be disturbed also by the legitimate factors, such as. work of one of the parents and thus the absence in the family because of the distance of the workplace from the place of residence, but also disturbed family environment because of the child's parents divorce. In particular, the divorce is an intervention into the family environment, which is for a child difficult to accept.

To the competent authority for social and legal protection of children and social custody are obliged to examine whether by parents or at least by one of them there are conditions for the proper upbringing of the child. When deciding on the child's upbringing, the court relies mostly just on the opinion of the authority for social and legal protection and social custody, which has a duty to examine the conditions in which the child is raised in the terms of evidence.

From the present perspective, it is clear that the competent authorities of social legal an protection and social custody and the

court will deal carefully with the issue of examining the environment in which the child will grow up. The most important question is, who is the best person for the child's upbringing, whether both parents or one of them, alternatively another individual who will be responsible in terms of law for the upbringing of the child.

Given the complexity of view, from the content of the contribution it is clear, that the Society has sufficient legislative and other means of guaranteeing the respect of the rights of minors.

The study was conducted for the development of inclusive education (involved expert JUDr. Kečkéšová Marta, PhD).

References 1.2:

1. Banovčinová, A., Vplyv chudoby na rodinné fungovanie. Hradec Králové: Gaudeamus, Univerzita Hradec Králové, 2014, 724 s. ISBN 978-80-7435-359-8
2. Čavojská, K.: Aktívna politika trhu práce: nástroje, opatrenia, hodnotenie efektívnosti. Bratislava: IRIS, 2015. 249 s. ISBN 978-80-89726-50-9
3. Keller, J.: Soumrak sociálního státu, Praha: Sociologické nakladatelství (SLON), 2006, 158 s. ISBN 80-86429-41-5
4. Kusin, V., Šebestová, P., Drábiková, J.: Etika v sociálnej práci a otázky ľudských práv a slobôd. Sládkovičovo: Vysoká škola Danubius, 2015. 192 s. ISBN 978-80-8167-025-1
5. Oláh, M., Roháč, J.: Sociálnoprávna ochrana detí a sociálna kuratela. Bratislava: Vysoká škola zdravotníctva a sociálnej práce Sv. Alžbety, 2008, s. 257. ISBN 978 – 80 – 89271 – 35 - 1
6. Pavelková, B.: Maloletí v slovenskom rodinnom práve. Bratislava: Bratislavská vysoká škola práva, 2009, s. 112. ISBN 978-80-89363 – 34 – 6
7. Vančová, A. – Kečkéšová, M.: Legislatívne a inštitucionálne aspekty pomoci osobám so zdravotným znevýhodnením. - 1. vyd. - Užhorod: RIK-U, 2017. - 242 s. ISBN 978-617-7404-74-2
8. Vančová, A. - Kečkéšová, M.: Sociálna politika - a právo ako prostriedok ochrany osôb so zdravotným znevýhodnením v SR = Social policy - and law as a means of protection of persons with disabilities in Slovakia. - 1. vyd. - Magdeburg: Europäische Bildungswerke für Beruf und Gesellschaft e.V., 2019. - 265 s. [print] ISBN 978-3-00-064649-2
9. Vančová, A. - KEČKÉŠOVÁ, M. - SMETANOVÁ, D.: Ochrana práv dieťaťa a rodiny v Slovenskej republike rámcovaná platnou legislatívou [elektronický zdroj]. - 1. vyd. - Bratislava: Slovak education publishing, 2017. - 217 s. [CD-ROM] ISBN 978-80-89834-03-7

Additional list of applied legal rules

The Convention on the Rights of the Child published a notice in the Official Journal in form of The Notice of the Federal Ministry of Foreign Affairs under no. 104/1991 Coll.

The Constitution of the Slovak Republic Act no. 460/1992 Coll. as amended.

Charter of Fundamental Rights and Freedoms was adopted by the Federal Parliament of the Czech and Slovak Federal Republic through Constitutional Act. 23/1991 Coll.

Convention on Protection of Children and Cooperation in Respect of Intercountry Adoption (Notification of the Ministry of Foreign Affairs of the Slovak Republic no. 380/2001 Coll.)

Convention on the Civil Aspects of International Child Abduction (Notification of the Ministry of Foreign Affairs of the Slovak Republic no. 119/2001 Coll.)

Act no. 36/2005 Coll. on Family and change and amendment of certain acts as amended.

Act no. 305/2005 Coll. on social and legal protection of children and social custody as amended.

Act no. 71/1967. on administrative proceedings (Code of Administrative Procedure), as amended.

Act. 99/1963 Coll. - Code of Civil Procedure, as amended,

Act no. 282/2008 Coll. on support of the work with youth and on the amendment of Act no. 131/2002 Coll. on universities and on amendments to certain acts as later amended Act no. 375/2013 Coll.

Act no. 453/2003 Coll. on state administration bodies in the field of social affairs, family and employment services and on amending and supplementing certain acts as amended.

1.3 Possibilities of development of technical abilities through the use of digital technologies in children with writing impairments in an inclusive education

To date, the problem of violations of written speech is the most urgent. One in five people on the planet face learning difficulties,

and in Moscow alone, there are 2.5 million children and adults with severe learning disabilities, including children with writing impairments. It is difficult for children with writing impairments to learn languages [10]. Due to the failures that children with a written speech disorder suffer when learning languages, their motivation for learning at school gradually decreases, and low self-esteem appears. Therefore, it is very important to create a situation of success and develop the abilities of children with writing impairments in other areas of activity.

Taking into account modern trends in education, we can say that the importance of using digital technologies in the educational space is increasing. Digital educational technologies help develop abilities more effectively [11]. Using various information resources, multimedia technologies, it is possible to significantly increase the clarity of the studied material and increase the cognitive activity in children with impaired written speech in the process of developing abilities [16]. This is especially becoming relevant in the framework of inclusive education of children with writing impairments.

Problem Statement. The problem statement concerns the question of what resources and personality traits can be used to overcome the situation of failure and show consistently high results in any other area of activity besides language learning. The question arises whether it is possible to achieve high results by children with impaired written speech in the field of technical creativity, if, based on the structure of the defect, it is difficult for such children to achieve high results in the humanities. Given the unpredictable course of covid-infection, there is a need to restructure the educational process, and in particular the need for the active use of digital information technologies in the educational process. In connection with the above, another research problem arises: how the use of digital technologies will reveal and develop the technical abilities of children with impaired writing in an inclusive education.

Research Questions and Purpose of the Study. The purpose of our study is to identify the possibilities of digital technologies in

the development of technical abilities of children with writing impairments.

Research objectives:

1. identification of children with writing impairment among junior schoolchildren;
2. the study of the inclinations to technical creativity by analyzing the level of development of cognitive processes in primary schoolchildren with impaired written speech;
3. assessment of the role of digital technologies in the development of technical abilities of children with writing impairments.

Research Methods. In the process of our empirical research, we used the system-activity approach. The study of personality requires us to use a systematic approach, since personality is a complex multi-level system, the study of which is impossible without a holistic analysis of its structural elements. The activity approach allows us to reveal such a multi-level system as the personality of children with disabilities from the perspective of its resilience through the analysis of the technical creativity of children with impaired written speech.

As research methods, we used: longitudinal method, observation method and testing method, and also implemented a formative experiment. The empirical study was carried out over 6 months.

We used the following methods as diagnostic tools: diagnostic methods according to I.N. Sadovnikova [13], “Bourdon’s proof test” technique, “Schulte Tables” technique, memorization of 10 words according to A.R. Luria [9], “Memorizing 10 pictures” technique, mechanical comprehension test, “Hood’s test” technique, Varteg circles (revealing the level of creativity).

The empirical study involved 376 children in grades 2 and 3.

The problem of dysgraphia and dyslexia began to develop in the 20th century. This problem was studied and disclosed in their works by such Russian scientists as G.M. Sumchenko, L.G. Milostivenko, R.I. Lalaeva, I.V. Prishchepova L.G., Paramonova, A.N. Kornev.

Within the framework of Russian speech therapy science, it is customary to separate dyslexia and dysgraphia, in foreign speech therapy, violations of written speech are not distinguished separately, they are considered together with reading disorders and are designated by the same term – dyslexia [8]. Representatives of the French speech therapy school (S. Borel-Maisonny) [19] tend to believe that dysgraphia (writing disorder) is a deeper disorder, and dyslexia (writing disorder) is a milder disorder. The Anglo-American school of speech therapy considers the violation of written speech to be a secondary disorder and does not distinguish it into a separate category (M. Critchley, E. Critchley, M. Tamopol, J. Lerner) [2]. The German speech therapy school does not share the reading disorder of the letter and unites it under the general concept of Lese-Rechtschreibschwache [1].

In our work, we rely on the definition of dysgraphia by R.I. Laeva [7] and distinguish between violations of writing and reading. Dysgraphia is a partial violation of the writing process, manifested in persistent repetitive errors caused by the lack of formation of higher mental functions that feel in the process of writing.

Written language disorders, to which Russian speech therapy refers to dyslexia, dysgraphia and dysorhography, are complex systemic disorders affecting all structural links of a person's speech activity and the situation when children with this type of violation study in general education schools is nothing more than a manifestation of inclusive education.

As a result of our empirical study, 39% of the studied children showed signs of impaired written language, of which 77% are students of 2 grades and 25% are students of 3 grades.

In 73% of the children studied, mixed dysgraphia was revealed, in 13% of children there was acoustic dysgraphia, 8% - dysgraphia against the background of impaired language analysis and synthesis, in 6% - agrammatic dysgraphia. As a result of the first stage of the empirical study, we selected 62 children of primary school

age, children with writing impairments, who took part in further research.

Tab. 1

Study of cognitive processes in children with writing impairment

| Cognitive processes | High level | Average level | Low level |
|--|-------------------|----------------------|------------------|
| Stability of attention | 0% | 37% | 63 % |
| Concentration of attention | 5% | 42% | 53% |
| The effectiveness of activity in the process of activating attention | 5% | 44% | 51% |
| Volume of short-term sound-speech memory | 19% | 73% | 8% |
| Visual-shaped memory | 91% | 9% | 0% |
| Visual-figurative thinking | 78% | 19% | 3% |

The study of cognitive processes (attention, thinking, memory) showed that in children with impaired written speech, attention processes most often suffer. So, we see that the concentration of attention in 53% of children of primary school age is at a low level. The stability of attention also suffers - it is at a low level in 63% of the surveyed children with writing impairment (Tab. 1). Consequently, due to the low level of development of the properties of attention, many children with writing impairments make mistakes when copying printed and handwritten texts. Their work efficiency is low, and they overwork and get tired very quickly. It is difficult for them to keep attention on objects of perception for a long time. At the same time, the analysis of the research results (Tab. 1) shows that visual-figurative memory and spatial perception (Fig. 1) are more preserved than the processes of attention.

It should also be noted that during the study we did not find such a type of dysgraphia as optical dysgraphia, the cause of which is the difficulties associated with the processes of visual-spatial

processing of information, memory impairments, writing errors due to distortion of the visual image of the word. Consequently, we can assume that, perhaps, in some children with dysgraphia who do not have a history of optical dysgraphia, asynchronism of cognitive processes is observed, expressed in a high level of development of the components of technical thinking (technical abilities).

Technical abilities are manifested in working with equipment or its parts and include the following components: technical mindset, developed spatial thinking and imagination, the ability to combine, personal qualities (curiosity, perseverance, activity), the ability to take into account the properties of the materials used, parts, forms and a motivational component that includes the child's desire to engage in technical creativity and the orientation of the individual towards mastering technical specialties [6].

A.V. Karpov in his works singled out such components of technical thinking as purposefulness, lability, thoroughness, fluency and flexibility. T.M. Khrustaleva, Yu.A. Shevchenko into the structure of technical abilities, technical intelligence, technical creativity, the activity component of technical abilities and specific motivation of the individual [14].

Solving the problems of empirical research, we carried out a diagnosis of technical abilities in children with impaired written speech. As we can see from the results of the study (Fig. 1), the majority of children with writing impairments who participated in the study developed a good level of creativity, that is, creative abilities. 36% of children with writing impairments from the surveyed sample quickly find solutions to complex non-standard problems. When solving problems, they can go beyond existing patterns, are able to assess the problem from all sides and apply different strategies to solve it. 57% of children with writing impairments have an average level of creativity. It is typical for this category of children, depending on the complexity of the task,

to quickly find non-standard solutions. However, they are not always able to critically evaluate solution strategies.

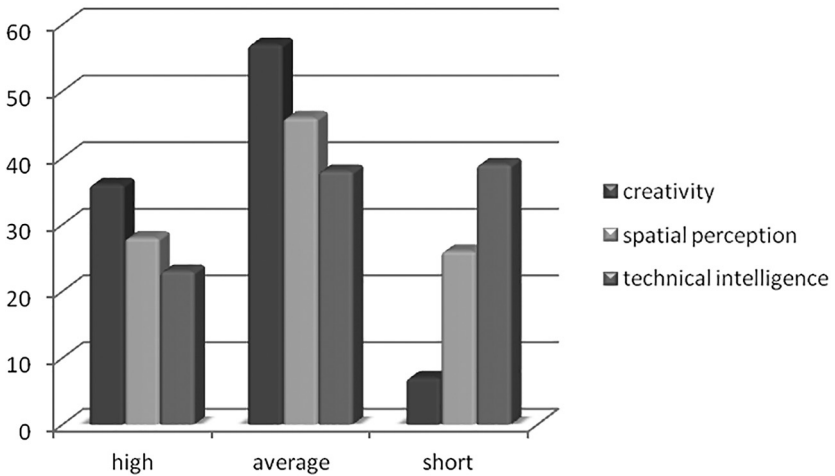


Fig. 1. Study of technical abilities in children with writing impairments

If we consider the level of development of spatial perception as an indicator of the presence of technical abilities in children with writing impairment, then we see from Figure 1 that in 28% of children it is developed at a high level, in 46% of children at an average level, and in 26% at a low level. Children with impaired written language have quite serious problems with spatial orientation. Most often, impaired spatial orientation occurs in optical dysgraphia. The prerequisites for a well-formed written speech is the formation of higher mental functions, including visual-spatial perception. Similar prerequisites, as noted by A.P. Voronov [18], can be represented by the formation of the concepts of left-right, somatic-spatial sensations of one's own body, spatial representations. If these prerequisites are not formed, is there dysgraphia, a violation of the process of mastering writing. In connection with the underdevelopment of optical-spatial functions, optical dysgraphia is distinguished. In our study sample, no optical dysgraphia was detected. However, we see that spatial perception is less developed than creativity.

The study of technical comprehensibility showed that in the selected sample of the study, technical comprehension is at a low level of development in 39% of the subjects, in 38% at an average level, and in 23% of children with a written speech disorder at a high level. Consequently, summarizing the data for the entire sample, children with writing impairments have developed technical comprehension at a level below average. This, in our opinion, is directly related to the fact that spatial perception in children with speech impairments is developed at the middle level. Therefore, based on the results obtained and the goals of our research, we selected 28 children with high indicators for the level of development of creativity, spatial perception and technical intelligence for conducting a formative experiment.

Today, digital information technologies are being actively introduced into the education process. There are a large number of constructors that allow you to solve educational problems: Arduino-like, DaNi, DARwin, Engino, Fischertechnik, Hunarobo, K'nex, Lego, Marbutopia, 30 Meccano, Megabloks, OLLO, Robopica, Scratchduino, Tetrax, Vex, Zometool, Igroteko, Constructor, Technolab, TRIK [15].

In the process of organizing a formative experiment aimed at developing the technical abilities of children with writing impairments, the following digital technologies were used: 3D modeling, graphic design using vector and raster graphics editor Adobe Illustrator and Adobe Photoshop, LEGO WeDO Education 9585 constructor.

In the classroom for the development of technical abilities in children with written speech impairments, the above digital technologies were used. Classes were held 3 times a week, the course is designed for 1 year. In total, three measurements were made (1 month of training, 3 months of training and 6 months of training) of the dynamics of the level of development of technical abilities of children with writing impairment. Analyzed creativity, spatial perception and technical intelligence in terms of the average score.

As we can see, from Fig. 2, children with writing impairments who participated in the experiment showed an increase in such

indicators of creativity as flexibility and fluency of thought. It should be noted that indicators of creative thinking fluency increased more actively than flexibility. Fluency as an indicator of creativity is characterized by the ability to quickly find a large number of solutions to a problem situation through the optimal sequence of actions.

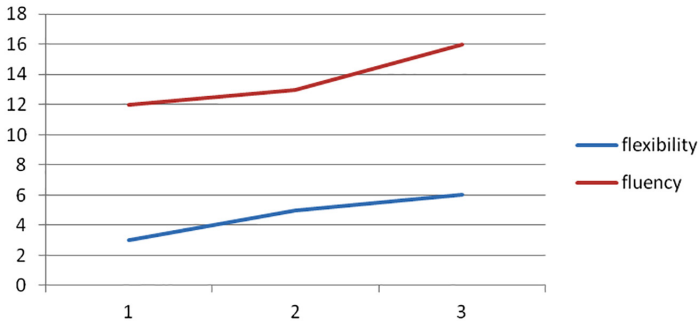


Fig. 2. Dynamics of the development of creativity (fluency, flexibility) in primary school children with impaired writing

Digital educational technologies, due to the specifics of the interface and work, in our opinion, increase the pace of the educational process itself. Flexibility as an indicator of creativity is characterized by a person quickly switching from one thought to another and doing several actions at the same time. Thought flexibility scores also increased, although not as actively as fluency scores, during the formative experiment. In our opinion, this situation is associated with the weakening of attention, which is present in children with impaired written speech. In general, after conducting a statistical analysis of the indicators of creativity, we found that there are statistically significant differences ($t = 2.78$ $p \leq 0.01$). Consequently, the digital educational resources we used help to increase creativity in children with writing impairments.

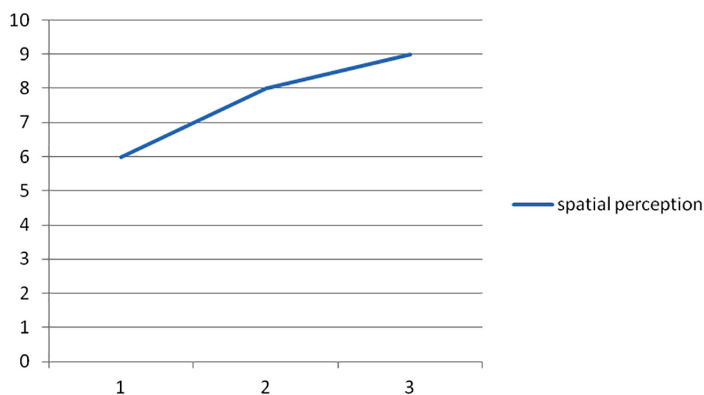


Fig. 3. Dynamics of the development of spatial perception in children of primary school age with impaired written speech

The dynamics of spatial perception has shown that in the process of using digital educational technologies associated with graphic design, Lego construction, there is an increase in indicators. Children with impaired written language learn better the perception of the shape, size, volume of objects, the distance between objects. Comparative analysis of the indicators of spatial thinking of the ascertaining experiment and intermediate results of the forming experiment showed the presence of statistically significant differences ($t = 2.80$ $p \leq 0.01$).

The analysis of indicators of technical comprehension in the process of conducting the formative experiment showed insignificant growth. In the process of statistical analysis, we did not find statistically significant differences. Perhaps this is due to the age characteristics of children with impaired written speech, and it is difficult for them to master the laws of mechanics and optics. Physics as a school subject requires the activation of verbal-logical thinking, and at primary school age, visual-figurative thinking dominates, and the rudiments of verbal-logical thinking are just emerging.

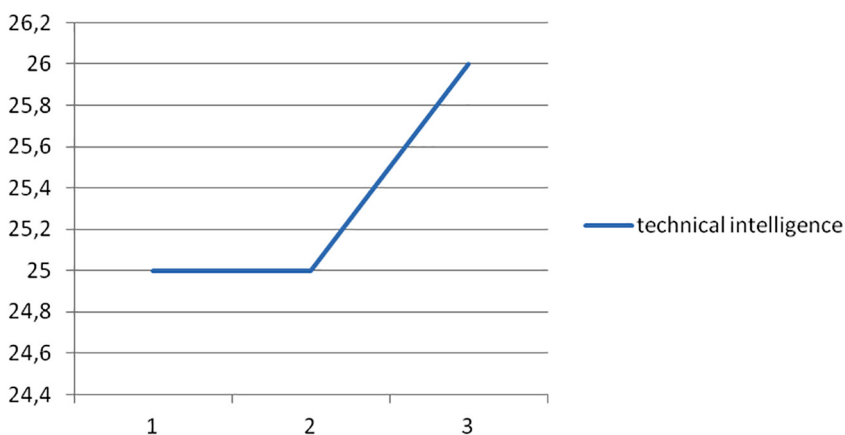


Fig. 4. The dynamics of the development of technical intelligence in primary school children with impaired written speech

Therefore, we can conclude that digital educational technologies have a positive impact on the development of technical abilities in children with writing impairments.

Conclusion. Thus, we see that some children with writing impairments are characterized by a high level of development of technical abilities. This circumstance, in our opinion, indicates the compensatory mechanisms of personality, asynchrony of cognitive processes. If we consider from the standpoint of sexual deformism and proceed from the structure of our sample of the study, then the majority of the subjects with a written speech disorder in the form of dysgraphia are boys.

Digital educational technologies contribute to the development of creativity and spatial thinking with impaired written speech, which manifests itself in the form of dysgraphia.

Technical comprehension as a structural component of technical ability is actively developing in the older grades, in elementary school we can see only its individual elements.

The use of digital educational technologies as a means of developing technical abilities opens up wide opportunities for teachers and students, especially when it comes to inclusive education existing in the context of a pandemic and distance education.

Inclusive education in the era of digitalization: generalization of experience, exploration of opportunities.

The development of education today is impossible without a clear understanding of the use of digital technologies in all spheres of human life. It is especially important to be aware of the limits of their applicability in the field of inclusive education. In times of unstable reality, it is important for the teacher of the Russian Federation to adhere to the principle of “do no harm”, but also be able to use the potential of new methods and techniques.

Today, there are the widest possibilities for organizing a virtual educational environment for inclusive education systems. The digitalization of education and the introduction of modern technologies bring with them difficulties, but also provide new opportunities. Innovative methodologies help prepare students of all ages with inclusion to master the competencies that will allow them to further integrate into society. In addition, they play an important role in creating effective, accessible and adaptable learning environments in inclusive classrooms. At the same time, the authors describe in their work the barriers that may arise when introducing digital technologies into inclusive education, namely:

- cognitive (when the perception of educational material through digital technologies);
- content barriers (the language of the working device or software does not match the native language of the student);
- didactic (students are not ready to learn using digital technologies, and the teacher does not have facilitation skills in inclusive education);
- financial (expenses for the latest technologies and software).

There are studies both on the state of digitalization in our country and on the features of inclusive education [3]. Scientists consider the activities of teachers of inclusive education in the development and use of electronic educational resources in teaching students with disabilities. Among the advantages of using digital systems in inclusive education, unlimited communications, expanding the boundaries of knowledge, a more democratic and

“clean” form and technology of teaching and knowledge control (testing, online learning) were singled out. Among the minuses are the deterioration in the health of students, Internet addiction (Internet addiction, which has consequences in the form of poor health and mental disorders), problems of social infantilism in the “native” society, non-adaptation to life, social immaturity and limited opportunities to identify personal qualities and level of knowledge in the learning process.

No matter what crisis conditions mankind is in associated with a digital breakthrough in education, the education system for children with disabilities should be one-time and stable. According to this sets the task of creating a modern and safe digital educational environment that ensures high quality and accessibility of education of all types and levels.

Considering inclusive education from the position of the pedagogical system, we mean that the teacher reserves the decision to use digital technologies to maintain favorable social conditions.

The task of the director of an educational organization is to take into account that the high-quality functioning of a virtual educational environment is impossible without the collective organized work of specialists from many industries, which can make it possible to avoid mismatch and imbalance in the development of education [17].

In 2004, L. Florian stated that digital technologies can become an effective tool for children with disabilities, noting that “technologies can help create conditions for equal opportunities to learn and equal access to the curriculum for all” [3]. Such claims have continued and have recently been reinforced by the introduction of mobile technologies, especially tablet computers, into schools. Tablets are becoming increasingly available in combination with free or low-cost apps with the potential for teaching and learning (European Schoolnet, 2014). There are many examples in Australia, Europe and the US where children have individual access to a laptop or tablet (Balanskat, Bannister, Hertz, Sigillò, & Vuorikari, 2013; Keane & Keane, 2018); provided through school procurement policies or Bring Your Own Device initiatives. Be-

tween 2011 and 2014, the European Commission funded SENnet, a sustainable network of policymakers and practitioners dedicated to helping children with disabilities use technology, led by European Schoolnet. A 2014 SENnet report identified the following potential benefits for children with disabilities using tablets: fast speed; immediate feedback made possible by touch screens; individual use made possible by the selection and organization of applications; opportunities for more individual learning and learning; accessibility and greater versatility compared to assistive technologies; the possibility of greater differentiation in the presentation and access to knowledge that is attractive to different students; built-in accessibility features such as voiceover, voice control, the ability to zoom, change fonts and color schemes to suit preferences (with possible replacement of assistive technology for some children) (European Schoolnet, 2014). Other educators note the potential of tablets in reducing the stigmatization of children with disabilities, helping them to adapt; especially useful when children with disabilities use the same devices and apps as their peers. For these reasons, tablets have become popular among practitioners supporting disabled children (Pellerin, 2012; Terrer-Perez, 2013).

In the Czech Republic, a study was conducted among 8 teachers working with children with disabilities in special schools or in special classes in ordinary primary schools. The study sample consisted of teaching staff (class teachers, special class teachers, special teachers) of four schools focused on teaching students with disabilities. As part of a narrower focus, the sample included only Prague schools with students with disabilities, namely those with combined disabilities. It was revealed that the attitude of all schools, whose teachers were survey respondents, to the use of modern teaching aids is positive, but not every student of a special school has enough of the same iPads that in the Czech Republic are most often adapted for use in classes with children with disabilities. The reserves for the use of new technologies in teaching students with disabilities can be divided into two groups. The first group includes all the shortcomings of information and com-

munication technologies (fragility, high cost and inaccessibility of programs, lack of a human factor, etc.), the second group of shortcomings includes insufficient knowledge and skills of teaching staff in creating programs to order or using digital learning technologies [4].

Most teachers prefer to use digital learning tools for only part of the lesson, combining activities based on the individual needs of a child with disabilities.

For the leaders of educational organizations that teach children with inclusion, it is clear that education should be managed as efficiently as possible. Risks are determined by the management mechanisms, the speed and validity of the forms of implementation of subject digital solutions and the content of digitalization of the subject level.

Summing up, it is worth noting that there are many controversial points on which our teachers have yet to respond to the challenges of the time. Of course, further research is needed in the field of the use of digital learning tools in inclusive education.

The development of digital educational content systems reinforces the concept of individualized learning in the virtual space. The constituent aspects of the digitalization of education raise the question of the need to improve the qualifications of teachers, create a setting for changing the mentality and mastering new competencies. Inclusive education in the digital space is impossible without the ability of the teacher to adapt to rapidly changing conditions, ensuring the adaptation of the educational environment to the special needs of students with disabilities and at the same time organizing education in an inclusive mode in a virtual environment.

The study was conducted for the development of inclusive education (involved experts: Dr. Merzon Elena, PhD; Shterts Olga, PhD; Uscakov Ilya, Mag. Ushakova Snezana, Mag. Tatarinova Ok-sana).

References 1.3:

1. Bauman-Waengler J.A. Articulatory and Phonological Impairments: A Clinical Focus. USA: Allen & Bacon, 2000, 400 p.

2. Critchley M., Developmental dyslexia: Its history, nature, and prospects. In D. D. Duane & M. B. Rawson (Eds.), Reading, perception and language. Baltimore: York Press, 1975.
3. Florian L. Uses of technology that support pupils with special educational needs. In L. Florian, & Hegarty, J. (Eds.), ICT and special educational needs. Maidenhead: Open University Press, 2004, pp. 7-20.
4. Hakr Hrdličková, Jana. ICT technologie jako prostředek pro vzdělávání dětí s KP Prague, 2020. Diplomová práce. Univerzita Karlova, Pedagogická fakulta, Katedra speciální pedagogiky. Vedoucí práce Mlčková, Marie.
5. Inclusive education: the continuity of inclusive culture and practice: collection of materials of the IV International Scientific and Practical Conference / Ed. S.V. Alekhine. M.: MGPPU, 2017, 512 p.
6. Kudryavtsev T.V. Psychology of technical thinking. M.: Pedagogika, 1975, 302 p.
7. Lalaeva R.I., Benediktova L.V. Reading and writing disorders in younger students. Diagnostics and correction. Rostov n/a: "Phoenix", St. Petersburg: "Soyuz", 2004, 224 p.
8. Lopes João A., Gomes C., Oliveira C.R., Elliott J.G. Research studies on dyslexia: participant inclusion and exclusion criteria. European Journal of Special Needs Education 35(5), 2020, p. 587-602. URL: <https://doi.org/10.1080/08856257.2020.1732108>
9. Luria A.R. Higher cortical functions of a person. SPb.: Peter, 2018, 768 p.
10. Pinskaya M.A., Kosaretsky S.G., Frumin I.D., Schools that work effectively in complex social contexts. Education Issues 4, 2011, pp. 148-177.
11. Riabov O., Merzon E. Indefinite "Coup" of Digital Education and Certainty of Reality. International Conference on Pedagogy, Communication and Sociology. ICPC Conference proceedings, Ningbo, China, 2019, pp. 16-19.
12. Rudskoy A.I., Borovkov A.I., Romanov P.I., Kolosova O.V. Ways to reduce risks when building a digital economy in Russia. Educational aspect // Higher education in Russia. 2019. V. 28. No 2, pp. 9-22.
13. Sadovnikova I.N. Dysgraphia, dyslexia: coping technology. M. : Paradigma, 2017, 280 p.
14. Shevchenko Yu.A. Psychological model of technical giftedness as the basis for professional selection and training. Professional staff in Russia of the XXI century: experience, problems, development prospects: materials of the III All-Russian conference, November 21-22, 2011, Moscow. URL: <http://edu.rosprav.ru/tezis.shtml>

15. Shikhnabieva T.Sh. Digital education: methods, models and technologies of development. *Monitoring. Science and technology*, 2018, 2(35), pp. 65-68.
16. Shterts O.M. Digital technologies in the diagnosis and correction of written speech disorders // Collection of materials of the virtual scientific and educational Forum "Education, forward!" On the topic "Technologies of cognitive learning in the context of the transformation of digital education", October 23, 2020, pp. 238-242.
17. Sibgatullina-Denis I., Sharafullina Zh. V. Asynchrony of digital education opportunities for inclusive systems. *Vestnik of NEFU*, NO 4 (20), 2020, pp. 50-54.
18. Voronova A.P. Speech therapy work on the prevention of dysgraphia in a kindergarten for children with speech disorders. URL: <http://cito-web.yspu.org/link1/metod/met144/node3.html>
19. Zazzo R., Ajuriaguerra J., Borel-Maisonny S., et al. *L'Apprentissage de la Lecture et Ses Troubles. Les Dyslexies D'Evolution*, Paris, Presses Universitaires, 1952.

CHAPTER 2
INTERDISCIPLINARY
REFLECTION
ON THE NEURODYNAMIC
STRATEGY FOR SPECIAL
ASSISTANCE IN INCLUSION

2.1 Innovative neurodynamic strategy of speech modeling in cerebral paralysis as an intervention support for inclusion

In this section of the monograph, we analyse scientific data on correction algorithms of motion. We talk about the participation of large parts of the body in the context of the method of neurodynamic correction of movements. We have suggested in our research that this may be the basis on which the speech of a person with cerebral paralysis is improved. By describing this approach, we demonstrate the common nature of speech disorders, fine motor skills of the hands and gross motor skills in cerebral paralysis, which are observed in most cases. This allowed us to put forward a hypothesis about the expediency of applying uniform principles of corrective action. This approach formed the basis for further search and development of a neurodynamic strategy for modeling speech in cerebral paralysis based on the concept of neurofeedback. This opens up broad prospects for the improvement of special pedagogical methods of providing assistance in organic brain lesions, the implementation of speech correction programs in inclusion.

The experience of using the method of neurodynamic correction of movements (NDCM), developed by A. Smolyaninov, demonstrates the possibility of creating such conditions under which it becomes possible to set in motion the musculoskeletal-articular system. This becomes possible due to the provision of an afferent flow of impulses simultaneously coming from the working organs to the brain, which, in turn, leads to the mobilization of reserve abilities of brain structures due to their plasticity and ability to compensate. This method is a step-by-step system of corrective measures aimed at overcoming individual pathological stereotypes characteristic of the state of the body in cerebral paralysis, in order to prevent the development of pathological synergies, muscle contractures and bone deformities, as well as creating a favorable basis for the formation of voluntary movements. Planning and implementation of external influences in

accordance with the state of development of the body allows you to organize the entire learning process on the principle of “bottom-up”, which helps to prepare the “ground” for the smooth passage of the nerve impulse from the periphery to the center. This ensures synchronous transmission of excitation to various areas of the brain, thereby increasing the likelihood of involving more healthy cells in the compensation process. At the same time, purposeful “training” in evaluating external signals and one’s own feelings allows one to “present knowledge explicitly to oneself,” that is, to realize them, and therefore to give a more thorough fixation in memory.

The possibility of creating the latter condition is especially important for the development of such a function as speech, which refers to conditioned reflexes acquired during a person’s lifetime and is a type of activity with a complex psychological structure. At the same time, it is necessary to remember that the ontogenetic sequence of the formation of a child’s body presupposes the primary development of gross motor skills, and then the fine one. Thus, ensuring the development of motion algorithms involving the participation of large parts of the body in the context of the NDCM method is the basis on which speech and fine motor skills of the hands can be corrected. Since the nature of speech disorders, fine motor skills of the hands and gross motor skills in cerebral paralysis is the same in most cases, it is easy to assume that the principles of corrective action may be the same. This hypothesis served as the basis for the research search and development of a technique aimed at the development of speech and fine motor skills of children with cerebral paralysis.

A set of preparatory exercises, selected in the context of the NDCM method, allows you to create the necessary psychophysiological basis for the development of more subtle differentiated movements related to fine motor skills. The next task is to gradually turn the physiological involuntary breathing into an arbitrary speech, adjust the voice supply and temporal design, start the sound production process, as well as coordinate the functioning of these components of the speech apparatus, adhering to the principle of “bottom-up” and taking into account the general state of the psyche.

For the successful solution of this problem, specific conditions remain relevant, allowing for positive neurodynamic changes. However, the “inexpressiveness” of fine movements, which requires increased concentration of attention, leads to the need for an even more thorough search and selection of means of corrective action. Awareness of the motor patterns of subtle movements to be assimilated in conditions of cerebral paralysis is the most important component, which, like gross movements, is based on the purposeful formation of intensive synchronous discharge of neurons, creating a field of high activity of the cerebral cortex and bearing the name of the neural “dynamic core” (in the terminology of J.M. Edelman, J. Tononni). The formation of such a structure for the conscious performance of small-scale movements in conditions of organic damage to brain structures is a task of increased difficulty: on the one hand, it is necessary to maximize the compensatory capabilities of the nervous system of the child’s body (to involve healthy cells in the process of skill formation), on the other - to achieve sufficiently intense interaction of neurons to perform the assigned movements.

In this context, it is important to remember that “autonomic feedback” acts as a guarantor of the successful implementation of conscious movements with the successful development of the body. The principle of their operation is to transfer the “pattern” of excitation from the “output” from a certain area of the cortex of neurons to the “input” of the same area (V. Sergin). Due to this, there is not just a sequential transmission of a nerve impulse, but also a coincidence of the excitation components, causing the discharge of an increasing number of neurons and an explosive increase in intensity. The implementation of feedback means the identification of the “pattern” of excitation of neural structures with itself or auto-identification, which is recognized by modern science as a universal apparatus for awareness of both external and internal (generated by the brain itself) signals. It is also important that the functioning of the auto-identification mechanism leads to dynamic inhibition of the surrounding neural structures, and this, in turn, contributes to the isolation of a specific “pattern” from the general background, that is, creates conditions for

the concentration of arbitrary attention. Meanwhile, it should be stated that the specificity of disorders in cerebral paralysis does not allow us to count on a sufficient level of functioning of autonomous feedback.

In general, the study of the brain's ability to implement feedback is rooted in the teachings of I. Pavlov about conditioned reflexes and the regulatory role of the cortex. Further, it was developed in the context of the research of P. Anokhin, who came to the conclusion that the feedback principle plays a decisive role both in regulating the higher adaptive reactions of the organism and its internal environment. To the date, a significant number of studies have been carried out by scientists from different countries, the result of which was the creation of the concept of Neurobiological Feedback (NBFB), which has an English equivalent – Neurofeedback. The essence of this concept is the possibility of purposeful formation of an additional feedback loop between the body and the brain in case of insufficient development of the main – natural. The basis of NBFB technologies is to create special conditions that allow a person to provide information about his physiological processes and to form self-regulation skills. The experience of using NBFB technologies for psychological and pedagogical purposes indicates a high probability of the occurrence of central and autonomous awakening of activity in networks responsible for the operations of attention, memory, a number of cognitive processes and the emotional-volitional sphere.

The modern understanding of the NBFB is to appeal to the mechanisms by which the brain maintains its own synchronization and interconnection of departments in accordance with the law of the regulated system, which guarantees full controllability through self-regulating means. The essence is to create such conditions under which the brain would be able to arbitrarily move from one state to another, activating its own resources for controlling the process of auto-regulation. This creates the need for special pedagogical strategies that take into account the neurodynamic structure of the brain organization, and opens up opportunities to fill the deficit of autonomous feedback, which is extremely necessary for the formation of motor circuits of fine differentiated movements in conditions of cerebral paralysis.

In the light of the facts stated above, correctional work on the development of speech skills can be built taking into account the structure of the “feedback loop”, which consists of four mandatory components, and the need for each is confirmed by long-term practice. So, when starting work on the development of arbitrary speech breathing, first of all, it is necessary to go through stage No. 1, which is called evidence-based and consists in measuring (as far as possible) the features or result of performing specified actions, fix it and provide the child with a visual form so that he has an idea of the starting point. Naturally, a prerequisite is to take into account the general mental state of the child and his age category when choosing the form of providing information. One of the options for passing this stage may be to give the child the opportunity to make an arbitrary energetic exhalation (blow hard) on a light object (suspended on a string) during the performance, for example, the exercise “Basket” in the context of the above-mentioned preparatory complex. However, it is necessary to focus his attention on the difficulty of performing this action in this position (you can suggest assessing the degree of deviation of the object from the strictly vertical position in the photo taken during the task).

The study was conducted for the development of inclusive education (involved expert Danilovichyute Elyana, PhD).

2.2 Alternative and Augmentative Communication (AAC) in support work with children with cerebral palsy in process of their inclusion

Cerebral palsy (CP) is the most common cause of physical disability affecting children in developed countries with an incidence of 2.0-2.5 per 1000 live births (Stanley et al 2000). The classic definition of CP is “a disorder of movement and posture due to a defect or lesion of the immature brain” (Bax, 1964). This definition was modified in 1992 to encapsulate the heterogeneity of the disorders covered by the term CP to: “an umbrella term covering a

group of non-progressive, but often changing, motor impairment syndromes secondary to lesions or anomalies of the brain arising in the early stages of development” (Mutch et al., 1992). The definition of CP has been revised recently by an executive committee for a report on the Definition and Classification of Cerebral Palsy, April 2006, to incorporate concepts developed by the ICF (Rosenbaum et al 2007). The proposed definition is ‘Cerebral palsy describes a group of permanent disorders of the development of movement and posture, causing activity limitation, that are attributed to non-progressive disturbances that occurred in the developing fetal or infant brain. The motor disorders of cerebral palsy are often accompanied by disturbances of sensation, perception, cognition, communication, and behavior by epilepsy, and by secondary musculoskeletal problems’ (Rosenbaum et al 2007).

Epidemiology of CP. The overall prevalence of CP is about 2.0 to 3.5/1000 live births. The prevalence is greater in low birth weight infants (90/1000 weighing less than 1000g versus 1.5/1000 in those weighing 2500g or more). (Colver et al., 2012). Term infants represent more than half of all cases with CP. (Bax, Tydeman, Flodmark, 2006) Compared with singletons, the relative risk of CP in twins is 5.6 and in triplets is 12.6.6. The death in utero of a co-twin places the surviving twin at high risk for developmental problems. Improvements in obstetric and neonatal care have reduced the incidence of CP in prematures, (Himmelman et al, 2005), but the overall prevalence has not changed due to a stable rate in term infants, greater survival in preterm, and extended longevity (Keogh, & Badawi, 2006). Most cases of CP have no relationship to prematurity or asphyxia (Nelson, 2002). The full extent of the motor disability may not be evident until 3–4 years of age. The majority of children affected with CP survive into adulthood, but life expectancy is negatively affected by the presence of severe quadriplegia, profound retardation, visual impairments, and lack of appropriate medical care. In addition to the defining motor disabilities, individuals with CP have a variety of non-movement problems, including intellectual disability

(40–70%), epilepsy (35–94%), speech and language disorders (50–60%), chronic sleep disorders, and disorders of vision or hearing (10–30%) (Newman, O'Regan, Hensey., 2006; Odling, Roebroek, Stam, 2006; Singhi, Jagirdar, Khandelwal, Malhi, 2003). Children with CP also have more psychological difficulties than do children in the general population. (Sigurdardottir, Vik, 2011). The association between socioeconomic status (SES) and CP is controversial; with some evidence suggesting that the effect of SES goes beyond just mediating factors affecting preterm birth, low birth weight, and postnatal trauma (Solaski, Majnemer, Oskoui, 2014).

Communication in children with Cerebral Palsy. Communication is the act of sending and receiving messages. It is usually accomplished by gesture, facial expression, and spoken or written language. Skilled communication allows us to share our ideas, thoughts, and feelings. In childhood it facilitates the development of relationships and access to education, leisure activities, and later, employment. Children with cerebral palsy (CP) often experience communication difficulties and recent epidemiological studies have suggested that communication limitations are associated with motor impairments in the first years of life (Coleman et al, 2013) and with both motor and cognitive skills in later childhood and in the high school years (Himmelman, Lindh, &Hidecker, 2013). Cerebral palsy is also responsible for dysfunctions of senses of sight, hearing, speech and language (Levitt, 2011). There are other associated problems, because cognitive development is directly related to communication and language. The lack of communication with other people in earlier stages of life can irreversibly impair their intellectual capacity in the future. This problem is even more critical when language is affected by brain injury (Levitt, 2011). The motor disorders of CP can affect children's production of speech, facial expressions, gestures and body movements, and reduce children's ability to act as effective senders of communication signals. Children may have difficulty in initiating movements and movements may be inconsistent, varying in speed, range and strength. Hence, the signals may be produced too late in conversation, may vary from one occasion

to the next, and may look and sound different from those produced by children without motor disorders. These differences make children's communication difficult to interpret and parents often arrange conversations around the few signals they can understand. Parents of children with motor disorders often lead conversation, and children adopt a respondent role. Conversation often comprises repeated short exchanges: parents ask questions or request children to perform activities; children respond, parents follow up the responses with brief acknowledgements and then ask further questions or make further requests. Children rarely make requests of their own and take very little control over conversation (Pennington, Goldbart, Marshall, 2004). Such patterns of conversation put children with motor disorders at risk of becoming passive communicators, and children with CP often fail to develop a full range of communication skills. As active and enquiring communication is needed to engage fully in social and education activities, children with motor and communication disorders are also at risk of exclusion.

Type of CP is observed to predict communication function. More severe communicative limitations are observed for children with dyskinetic forms of CP than with spastic type (Himmelman, Lindh, Hidecker, 2013). Communication difficulties in bilateral spastic and dyskinetic CP may be due to motor speech impairment alone but may also be influenced by accompanying intellectual impairments. Vos et al. (2014) have prospectively studied the communication of children with CP in four different age cohorts and have modelled communication trajectories for children with dyskinetic CP, and unilateral and bilateral spastic CP (with and without intellectual impairment) from 2 to 16 years. Himmelman et al. (2013) suggest that across childhood the strongest predictor for expressive, face-to-face communication is CP type and distribution, with unilateral spastic CP associated with best outcome. After an initial lag, the children they tracked who had spastic type CP without intellectual impairment acquired expressive skills similar to their peers with typical development. Children with non-spastic type who did not have intellectual impairment

continued to lag behind, potentially due to the severity of their dysarthria. Vos et al. (2014) measured expressive communication using the Vineland Adaptive Behavior Scales, which mainly reports interaction using language. Items on this assessment could be passed using spoken language or language produced using augmentative and alternative communication (AAC) systems. It would be interesting to ascertain the impact of AAC on children's expressive communication in this study. Information on how many children used AAC, the types of systems they used, and the complexity of messages they produce would be helpful. Without the use of such systems mean expressive communicative performance may have been lower, but by what degree is impossible to speculate. Such data could provide important support for the implementation of AAC, which is far from universal, even in countries with relatively well developed and resourced health, education, and welfare systems such as the UK. Intellectual impairment was the strongest predictor of receptive communication. These results suggest that language difficulties in CP are strongly influenced by general cognition and that language disorder is not common in this group of children, which has previously been hypothesized (Prila et al., 2007). It is noticeable that the raw scores of children with bilateral spastic CP were reduced in middle adolescence. Further prospective research, with children studied for longer periods or with potentially larger samples, is needed to examine if the trajectories observed by Vos et al. (2014) can be replicated, and indeed if receptive scores may continue to change in later adolescence. Vos et al. (2014) also provide valuable information on written language development. Learning to read and spell is particularly important in our technological world; information technology can create vast opportunities for learning, leisure, and employment. However, access to information technology and social media is heavily dependent on the written word. This is the first epidemiological study to track prospectively the literacy development of young people with CP. It is encouraging to observe that children without intellectual impairment achieved literacy scores similar to their peers with typical development. Future

research could also ascertain the causes of literacy difficulties. Some children's literacy may be commensurate with their general intellectual development. Other children's literacy may be influenced by difficulties in phonological awareness and verbal working memory (Dahlgren-Sandberg 2016; Peeters et al, 2008). Further information on literacy acquisition could help us provide tailored literacy instruction and help young people increase their access to technology and potentially enhance their participation in social, educational, and civic life.

Children with CP, including those who develop speech, could take a respondent role in interaction and to use communication for a smaller range of functions than children without motor disorders (Pennington & McConachie 2001).

Failure to develop a full range of communicative functions (e.g., the ability to ask questions or signal lack of understanding of a speaker's message) can severely limit children's independence. Early Speech and Language Therapy intervention therefore often focuses on training parents to recognize children's idiosyncratic communication signals and to facilitate their children's communication development by creating more frequent and more varied conversational opportunities. Parent communication training has a growing body of experimental evidence to support its implementation (Granlund et al., 2008) but the generalizability of training has not been tested in randomized controlled trials.

The aim of such early intervention is to provide children with the communication skills onto which they can build language and become independent communicators. For children whose speech intelligibility is severely limited by their motor disorder language may be expressed using *Augmentative and Alternative Communication* (AAC). Evidence of the effectiveness of AAC in promoting communicative independence is available for children with wide ranging communication profiles (Pennington et al., 2003; Schlosser & Rhaghavendra, 2004). AAC has helped children to initiate conversation more frequently, use a wider range of communicative functions, access a broader vocabulary, and increase narrative performance.

Communication Function Classification System (CFCS). There are a number of functional classification systems that describe specific area of function that was the focus of every system. For example, the original system (the Gross Motor Function Classification System [GMFCS] Palisano et al. (1997) explicitly looked only at “gross motor” function, this being by definition the hallmark impairment of cerebral palsy. The Manual Ability Classification System (MACS) (Eliasson et al, 2006) was created by Swedish colleagues whose research interests and clinic work concern “manual function.” They had initially challenged the developers of the Gross Motor Function Classification System regarding its apparent disregard of “manual abilities,” whereas the Gross Motor Function Classification System had explicitly focused only on gross motor function in order not to confound one aspect of function with another. In creating the Communication Function Classification System (CFCS) (Hidecker et al,2011). Hidecker et al (2011) wanted to categorize levels of communicative functioning beyond traditional approaches used by speech-language pathologists. Like the earlier classifications, the intent of the Communication Function Classification System was to describe people’s ability to communicate without regard to the way the function achieved, and without the traditional emphasis on “normal” function.

The CFCS is a valid measure in cerebral palsy that assesses everyday communication (not optimal communication) (Hidecker et al,2011). The CFCS is a simple, five-point ordinal classification system, and was designed to be analogous and complementary to the GMFCS and MACS. Being an effective communicator requires both sending and receiving information, and the CFCS accordingly assesses both how information is expressed and how it is received. The CFCS allows all methods of communication (e.g., vocalizations, manual signs, eye gaze, pictures, communication boards, speech generating devices) to be included when assessing an individual’s classification. In this way, the CFCS is inclusive and descriptive for individuals who do not vocalize to communicate. The CFCS also takes into account familiar and

unfamiliar communication partners (Hidecker et al,2011). An individual who communicates at a CFCS level I is known as an “effective sender and receiver with unfamiliar and familiar partners”. The individual is able to communicate at a comfortable pace, send and receive information with familiar and unfamiliar partners, and any misunderstandings are easily corrected. An individual who communicates at a CFCS level II remains an effective communicator, but the pace of communication is slower. An individual at this level is known as an “effective but slower paced sender and/or receiver with unfamiliar and/or familiar partners”. The primary difference between a level I and level II communication functioning is the pace of the communication; however, both are effective at sending and receiving information. An individual who communicates at a CFCS level III is known as an “effective sender and receiver with familiar partners”. The primary difference from CFCS I and II is that communication is effective with familiar partners, but is usually not effective with an unfamiliar partner, due to decreased intelligibility. At CFCS level IV, an individual is an “inconsistent sender and/or receiver with familiar partners”. An individual may occasionally communicate with familiar partners, but it is the inconsistency of this interaction that makes the distinction for level IV compared to level III. An individual who communicates at a CFCS level V is a “seldom effective sender or receiver even with familiar partners”. This is in contrast to a level IV where there is inconsistency with communication; a level V consistently has ineffective communication.

Alternative and Augmentative Communication (AAC). Alternative and Augmentative Communication (AAC) refers to all the methods and means of communication designed to assist / replace speech (or / and writing) when these are affected. Augmentative communication indicates communication methods that can be used to accompany an impaired speech for improving transmission and message understanding, and thus improving communication itself. Alternative communication relates to methods and means of communication used to completely replace speech (or / and writing) when it can not be produced. In line with the posi-

tion of ASHA (American Speech-Language-Hearing Association) from the annual publication of the Association (ASHA, 1991), AAC intervention is multimodal, so that it appeals to the individual communication ability as a whole, including any residual speech or vocalization, gestures, signs or other means of sustaining communication. An augmentative and alternative communication is “an integrated group of components, including the symbols, communication aids, strategies and techniques used by the individual to support communication” (ASHA, 1991, p.10), this definition emphasizing the use of multiple modalities and components in the communication process. Alternative and augmentative communication subsumes any device, system, method, which improves the ability to communicate for a person with a communication disability. While AAC is often used to refer to formal communication devices and communication systems such as the manual signs, communication boards and speech generating devices, it also includes less sophisticated modes of communication such as vocalizations, facial expressions, idiosyncratic gestures. Alternative and augmentative communication is especially needed when a child acquires speech normally and there is a significant delay in development, but it can and should not simply become a substitute for how the child currently communicates. AAC is needed to support communication and to replace only the items that are unintelligible, socially unacceptable or dangerous for the subject or those around him. Ideally, alternative and augmentative communication includes more than one system of communication, so that the child may use the most appropriate depending on the people he communicates with, the circumstances and the activities he is involved with. Very often, one of the means of communication in an AAC program is speaking itself. So during AAC interventions, subjects will be encouraged to use various methods and appropriate means in various situations and with different communication partners. This follows the principles of total communication strategies and it implies that AAC users will use multiple methods of communication to achieve the most effective communication possible (Warrick, 1998). Alternative and augmenta-

tive communication is a kind of intervention that uses manual signs, communication boards with symbols, devices that produce synthesized voice, all these whilst trying to incorporate all remnant communication skills of the child. These skills can include any remaining speech or vocalization capacity, gestures, manual signs, ability to use communication boards and electronic devices for synthesizing voice. Some children do not have any conventional way to communicate and express their needs and desires, and sometimes they do that in a socially unacceptable manner, for example, aggressive, destructive or self-stimulating actions. Alternative and augmentative communication can replace these unacceptable forms with conventional means of communication. In the same time, alternative and augmentative communication helps to increase access to learning activities and thus improves cognitive development of the individual.

AAC can be classified as manual signs and symbols. Manual signs refer to prescribed or agreed systems of hand shapes and movements, body positioning, and facial expression, and include formal sign languages often used by people with hearing loss. Depending on the severity of motor impairment, children with CP can be precluded from the use of a full sign language as an effective mode of communication, although they may still use a range of approximated signs alongside other communicative modalities. More typically, intervention with children with severe motor impairment aims to establish the use of symbols to support communication. Symbols refer to graphic or object representations of language. Examples of symbols used by children with CP include pictures and photographs, with orthography representing the most advanced graphic symbol system. By selecting and signalling their choice of symbol, children are able to communicate meaning to their communication partners. Children who have yet to develop literacy, or who experience difficulty in this area, are commonly provided with symbol sets or symbol systems. A symbol set is a vocabulary or glossary of language terms represented in graphic form. Symbol systems tend to be more complex and have their own structural rules where, for example, different

combinations of symbols or symbol elements can be combined to generate 'grammatical' language units. Children with significant learning disabilities who have not developed understanding of the symbolic nature of pictures, photographs or graphic symbols may be supported in their understanding of language and their expressive communication through the use of 'objects of reference' in frequently occurring everyday activities. An object of reference is a tangible symbol which can have particular or individualised meaning associated with it. The symbol, often an object, can give the child information about activities, people, events which may not otherwise be available to them. For instance, smelling a certain air freshener may signify an imminent car ride, or feeling a spoon can signal time for dinner. Symbols are organised on high-tech and low-tech communication aids. High-tech communication aids are electronic devices that produce either digital (recorded) or synthetic (artificial) voice output. These software- or hardware-based communication aids are also known as speech generating devices (SGDs) or voice output communication aids (VOCAs). Professor Steven Hawking is an example of a successful adult user of a high-tech VOCA. In recent years, high-tech AAC has mirrored wider technological trends, with increasing use of specific communication aid software on commercially available devices such as mobile phones and tablet computers. Such devices may require some modification (louder speakers, protected screens, rugged cases etc.) for use as AAC devices, but it is possible that children and young people may view such mainstream and apparently 'desirable' devices as more acceptable than other systems in relation to their self-image. Low-/light-tech systems are paper-based books or charts of pictures, photographs, graphic symbols and words. Such systems can be created by hand or with the aid of specific software and templates designed for this purpose. The introduction of light-tech systems is a common starting point for exploring AAC intervention with children, families and schools. Where a high-tech aid is provided, it remains important to maintain and develop a low-tech system, to ensure availability of a communication system at all times, in-

cluding those times when the use of the high-tech aid is not possible or practical.

AAC systems are based on physical or virtual boards and use text, figures or icons representing everyday activities, persons, actions, places and objects. In order to communicate, children should select these images or icons. Besides there being a number of hardware solutions to assist people with communication disorders, there are still many unanswered questions related to how effective these solutions are (Gonzales, Leroy, and de Leo 2012). In addition, a problem encountered in the literature is the difficulty of evaluating the solutions proposed in cases of cerebral palsy. As can be seen in Caltenco, Andreasen Struijk, and Breidegard (2010), it is usual to find three, two or only one participant evaluating the solutions. In fact, this is a difficult and delicate task, where the results take some time to be reached and strongly depend on human factors. Also, according to Hornof (2009), not enough guidance is available on how to directly collaborate with children with disabilities as partners in the design process of assistive technology solutions. For Borges et al. (2014), methodological aspects for the inception, construction and evaluation of high assistive technologies, based on user-centred design, are still missing.

Augmentative and alternative communication AAC covers all forms of communication (not only speech) used to express needs, desires and ideas, and includes facial expressions, gestures, symbols, images and writing (ASLA, 2012). AAC solutions are generally classified under the criteria of use or non-use of communication devices. The latter case basically involves gestures, hand signals and sign language (ASLA, 2012). When using communication devices, AAC can also consider the use of supplementary materials, such as communication boards based on letters, symbols or pictures. It may also be related to picture books, or textured cards using Braille, for example (Schlosser, Sigafos, & Koul, 2009). AAC systems may be pictorial or linguistic. Pictorial systems use photographs, movies and drawings, among other pictorial elements, to aid communication. The most important feature is that picto-

rial symbols have an isomorphic relationship with their constituents. For example, to represent a ball, a round symbol shaped like a ball is used. This type of system allows communication without sharing the same code or the same language conventions (Lancioni, Sigafoos, O'Reilly, & Singh, 2013). On the other hand, linguistic systems use abstract and arbitrary symbols to express their desires. They do not map or depict the shape of the entities they represent. As a result, these systems are capable of representing anything at all. But, in this case, interlocutors must share the same code conventions. Examples of this type of system are the Bliss™ system and the sign language for deaf (Batshaw, & Shapiro, 2002). In general, the AAC process involves the following steps: (a) symbols representation, (b) selection of desired symbols by users, (c) sentences construction, (d) transmission and (d) showing/speaking the messages using a physical or an electronic communication board (Light, & McNaughton, 2014).

AAC solutions are composed of no-tech, low-tech and high-tech elements depending on the involved technology (Lloyd, Quist, Windsor, 1990). Gesture and sign languages are examples of non-tech solutions, as stated previously. On the other hand, low-tech solutions do not involve electronic components, but high-tech solutions do, commonly based on standard computers or mobile devices. Software for language development and dynamic communication displays are examples of high-tech solutions.

Vocabulary for language development is an approach related to vocabulary organizations, based on language development, such as the Talk Board (Todman, 2000). This solution is based on the perspective of a typical conversation, taking into account person, queries and tense, leading to a particular set of phrases that can be chosen and spoken by the system. Typically, a set of phrases could be selected by only one switch selection (Cook & Polgar, 2008). On the other hand, dynamic communication displays are graphical interfaces. These solutions bring higher flexibility in constructing phrases by changing the selection set displayed when any choice is made. For example, a general selection set may consist of categories such as greetings, food and work. If an

element of any category is chosen (using a switch or by scanning, for example), then a new selection set will be displayed to the user (Cook and Polgar, 2008). The nature of these solutions also allows the user to configure size, colour and arrangements of symbols. Particularly, symbols always appear in the same position on the screen, as would happen on a physical board. Boardmaker is another well-known AAC solution. This software lets the educator create print materials, such as communication boards, based on picture communication symbols (PCS) and many other pictures and graphics and also adds sound, animation and video to activities to use on the computer. Boardmaker explores vocabulary software for language development and also communication displays, such as Dynavox solutions. Some solutions explore the use of alternative human-computer interfaces. Vanderheide, (2002) proposed an AAC system integrated to a webcam computer that captures the movements of the head in order to select symbols on the screen. The system develops the construction, validation and transmission of messages based on symbols and synthesised speech. The solution was evaluated in an entity that provided services to persons with cerebral palsy, and only stated some observations concerning the difficulties of properly configuring the system resources for each user. These authors mention the feasibility of using the solution but emphasise that various aspects of the system need to be improved, such as the quality of the synthesised voice, for example.

Another related work uses a semantic approach in which the verb is the centre of building sentences. The system uses word prediction during the dialogue, based on historical and thematic messages. Navigation between the words requires a single key selection, based on rapid serial visual presentation (RSVP) (Lund, & Light, 2007). The input signal can be sent by any input device, such as a button, a snap, a muscular movement or a brain wave. The proposal was evaluated by users with healthy motor skills, using the RSVP method and also using a manual navigation technique to select symbols. Millar, Light and Schlosser (2006) proposed a solution based on a virtual communication board that contains

symbols and letters. The system uses basic features of artificial intelligence. Letters and symbols can be scanned using a virtual keyboard, which are also sorted relating to the frequency of its use. The paper mentions neither the results, nor the method used to evaluate the system. Gatti and Matteucci (2006) developed a Bliss predictive composition assistant for AAC. Authors use a user linguistic behaviour model adopting a semantic/probabilistic approach for predictive Bliss symbols scansion. The solution was able to predict a list of symbols as the most probable ones according to both the previous selected symbol and the semantic categories associated with the symbols based on an original discrete implementation of auto-regressive hidden Markov model called DAR-HMM. Besides the solutions briefly described in this section were identified other AAC systems, but like most academic solutions, they do not focus on several problems, typical of these systems, such as the speed of communication. The main goal of AAC systems is to enable the user to communicate his or her feelings, desires and emotions as quickly as possible. Moreover, the majority of solutions do not address the use of information that, for example, could provide feedback for posterior expert analysis. This type of feature enables user performance to be monitored and improved overuse. Another important aspect is that AAC solutions commonly do not consider alternative means for human-computer interfaces, other than the traditional mouse or keyboard. Although these are the most commonly used input methods, children with cerebral palsy have motor dysfunctions which constrain the use of traditional keyboard or mouse. The increased cognitive cost and perceptual load in prediction-based solutions should also be noted. For example, user interaction slows down if the order of symbols changes or when new symbols or categories are added, making it hard to memories new structures. This happens even for word prediction (Koester, & Levine 1994). For all these reasons, AAC solutions specifically designed for children with cerebral palsy are a real challenge for rehabilitation professionals and for assistive technology developers.

AAC program helps parents become more receptive to communication behaviours manifested by the child, and in addition

it provides the child ways of communication that are more easily decipherable. Child with a deficiency of communication is prone to what is called “learned helplessness” - (Beukelman and Mirenda, 1992). Because adults do not expect to be informed of their child needs and desires, they anticipate and often misinterpret their real needs. As a result, because the needs are met even before they are communicated, the child may waive any attempt to make his needs known, becoming extremely passive. AAC gives the child the tools and means by which he is able to make choices and to indicate what he likes and what he does not like. In fact, giving children more control over the environment is often one of the first objectives of the communication program.

Child who is frustrated by his inability to communicate, to be understood by others, may resort to behavioural disorders to get what he wants. AAC provides children socially acceptable ways to communicate their needs and desires. All children sometimes exhibit unwanted behaviors. However, when these unwanted behaviours become so intense and frequent that affect the child's safety or ability to learn, it is necessary to intervene on them. Behavioral problems may include tantrums, throwing objects, kicking, scratching, biting others or ourselves. Self-stimulation (waving fingers or throwing eyes) is also a behavioral problem. In the past, a variety of techniques have been used to try to control improper social behavior. One of the most recent and successful methods is called “functional behavioral analysis” or “positive behavioral support” (Reichle, York and Sigafos, 1991). To prevent all these unwanted side effects related to communication disabilities, early intervention is through augmentative and alternative communication is indicated. Early intervention services are usually provided by a multidisciplinary team of specialists that includes doctors, special education teachers, social workers, speech disorder therapists and augmentative and alternative communication specialists. They include various activities that can be carried out in hospitals or special clinics, in special schools or at home. The augmentative and alternative communication specialist will advise the family on how to interpret and develop the child's means of communication, on how to organize the communication with-

in the home environment and to schedule learning opportunities through play and games that make use of augmentative and alternative language. During individual therapy sessions when the parent is also present and involved, the augmentative and alternative communication specialist will implement an individual intervention program aimed at developing the child's language functions and encourage transition to intentional and symbolic communication, so that a recovery or compensation of language function is achieved.

The provision of AAC to children is not an end in itself. Rather, AAC provision is one aspect of broader intervention practice aimed at supporting and developing the child's total communication repertoire. Intervention may take varied courses at any one time given the relative significance of multiple factors that can influence AAC related support: these factors will include child characteristics, environmental and participation related factors, family and child motivations and preferences, and the perspectives of the clinical care and school education teams. In addition to supporting children to develop their skills in the operation and deployment of AAC tools and strategies alongside their other intrinsic communication skills, intervention will seek to develop the communication skills and sensitivities of these children's communication partners (parents, peers, educationalists). As noted, interactions between children with little or no functional speech using AAC systems can differ from the normal expectations and practices observed in interaction between naturally speaking participants. Intervention with communication partners commonly aims to establish sensitivity to, and engagement with, the total range of communicative modalities used by children with CP. Intervention with children's communication partners will also seek to alter and develop the commonly observed communication strategies used by natural speakers (e.g. excessive use of yes/no questions), which can lead to impoverished communication experiences for children with CP and hence impede children's language, communication and cognitive development. Intervention practice may also be informed by the published evidence base relevant to AAC. There are often difficulties with

interpretation; given the heterogeneity of the population, where evidence is available, it may not reflect practitioners' caseloads, or participants in research may not have been suitably described. Equally, intervention aims from published studies may not mirror priorities identified by children, families and professionals. Therefore, as well as seeking out evidence relevant to multi-modal communication support, intervention is likely to benefit from evidence drawn from strategies common to a range of pediatric populations with communication difficulties.

In this work, we described one of the ways of development of active communication for children with CP – using of Augmentative and alternative communication, which used more and more in the practice of Special Pedagogy Teams all around the world. We hope that this way of communication will help more and more children with CP to discover the world and will help the world to discover the children.

The study was conducted for the development of inclusive education (involved experts: PaedDr. Harčáriková Terézia, PhD; Mgr. Nagyová Kristína, PhD).

References 2.2:

1. ASLA-American Speech-Language-Hearing Association (2012). Report: Augmentative and Alternative Communication, 33, 9-12.
2. Batshaw, M. L., Shapiro, B. (2002). Batshaw, M. L., ed. Children with disabilities (5th ed.). Baltimore: Paul H. Brookes Publishing Company.
3. Bax, M. (1964). Terminology and classification of cerebral palsy. *Dev Med Child Neurol* 6:295–297.
4. Bax, M., Tydeman, C., Flodmark, O. (2006) Clinical and MRI correlates of cerebral palsy: the European Cerebral Palsy Study. *Journal of the American Medical Association* 296(13), 1602–8.
5. Beukelman, D., R., Mirenda, P. (1992) Augmentative and alternative Communication, management of severe communication. *Disorders in Children and Adults*. Paul H. Brooks Publishing Co.
6. Caltenco, H.A., Andreasen Struijk, L.N.S. & Breidegard, B. (2010) “Tongue-Wise: tonguecomputer interface software for people with tetraplegia”, Proceedings of the 32nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society, pp. 4534.

7. Coleman, A., Weir, K.A., Ware, R.S., Boyd, R.N. (2013) Relationship between communication skills and gross motor function in preschool-aged children with cerebral palsy. *Archives of Physical Medicine and Rehabilitation*. 94:2210–2217
8. Colver A, Thyen U, Arnaud C, et al. (2012) Association between participation in life situations of children with cerebral palsy and their physical, social and attitudinal environment: a cross-sectional multi-centre European study. *Arch Phys Med Rehabil*. 93:2154–64.
9. Cook, A. and Polgar, J. M. (2012). *Essentials of Assistive Technologies*, St. Louis, Mosby/Elsevier.
10. Dahlgren-Sandberg A. (2006) Reading and spelling abilities in children with severe speech impairments and cerebral palsy at 6, 9, and 12 years of age in relation to cognitive development: a longitudinal study. *Dev Med Child Neurol*; 48: 629–34.
11. Eliasson, A.C, Krumlinde-Sundholm, L., Rösblad, B., Beckung, E., Arner, M., Öhrvall A.M, Rosenbaum. P. (2006). The Manual Ability Classification System (MACS) for children with cerebral palsy: scale development and evidence of validity and reliability. *Dev. Med Child Neur*. 48:549-554.
12. Gatti N., Matteucci M. (2006) CABA2L a Bliss Predictive Composition Assistant for AAC Communication Software. In: Seruca I., Cordeiro J., Hammoudi S., Filipe J. (eds) *Enterprise Information Systems VI*. Springer, Dordrecht.
13. Gonzales, C., Leroy, G., y De Leo, G (2012). *Augmentative and Alternative Communication Technologies. Computer engineering: Concepts, methodologies, tools and applications.* (pp. 1164-1180)
14. Granlund, M., Björck-Åkesson, E., Wilder, J., Ylvén, R. (2008) AAC interventions for children in a family environment: Implementing evidence in practice. *Augmentative and Alternative Communication* 24:207–21.
15. Hidecker, M. J., Paneth, N., Rosenbaum, P. L., Kent, R. D., Lillie, J., Eulenberg, J. B., Taylor, K. (2011). Developing and validating the Communication Function Classification System for individuals with cerebral palsy. *Developmental Medicine and Child Neurology*, 53(8), 704-710.
16. Himmelmann K, Hagberg G, Beckung E, Hagberg B, Uvebrant P. (2005). The changing panorama of cerebral palsy in Sweden. IX. Prevalence and origin in the birth-year period 1995–1998. *Acta Paediatr*. 94:287–294.
17. Himmelmann, K., Lindh, K., Hidecker, M. J. C., (2013). Communication ability in cerebral palsy: A study from the CP register of western Sweden. *European Journal of Paediatric Neurology*, 17(6), 568-74.
18. Keogh, J. M., & Badawi, N. (2006). The origins of cerebral palsy. *Current Opinion in Neurology*, 19, 129-134.

19. Koester, H., & Levine, S. (1994). Learning and Performance of Able-Bodied Individuals Using Scanning Systems with and without Word Prediction. *Assistive Technology*.
20. Lancioni, G., Sigafoos, J., O'Reilly, M. F., & Singh, N. N., (2013). Assistive technology interventions for individuals with severe/profound and multiple disabilities. New York: Springer.
21. Levitt, S. (2011). *Treatment of Cerebral Palsy and Motor Delay*. 3rd edition. Blackwell Science; Cambridge, Mass., USA. pp191-217
22. Light, J., McNaughton, D. (2014). Communicative competence for individuals who require augmentative and alternative communication: A new definition for a new era of communication? . *Augmentative and Alternative Communication*. 30 (1): 1-18.
23. Lloyd, L.; Quist, R.; Windsor, J. (1990). A proposed augmentative and alternative communication model. *Augmentative and Alternative Communication*. 6 (3): 172.
24. Lund, S. K.; Light, J. (2007). Long-term outcomes for individuals who use augmentative and alternative communication: Part III – contributing factors. *Augmentative and Alternative Communication*. 23 (4): 323-335.
25. Millar, D.C.; Light, J.C.; Schlosser, R.W. (2006). The impact of augmentative and alternative communication intervention on the speech production of individuals with developmental disabilities: A research review. *Journal of Speech, Language, and Hearing Research*. 49 (2): 248-264.
26. Mutch, L., Alberman, E., Hagberg, B., Kodama, K., Perat, M., (1992). Cerebral palsy epidemiology: where are we now and where are we going? *Developmental Medicine and Child Neurology* 34: 547-551.
27. Nelson, K.B. (2003). Can we prevent cerebral palsy? *N Engl J Med*; 349 : 1765-1769
28. Newman, C. J., O'Regan, M., & Hensey, O. (2006). Sleep disorders in children with cerebral palsy. *Developmental Medicine and Child Neurology*, 48(7), 564-568
29. Odding, E, Roebroek, M.E., Stam, H.J. (2006). The epidemiology of cerebral palsy: incidence, impairments and risk factors. *Disabil Rehabil*. 28:183-191
30. Palisano, R., Rosenbaum, P., Walter, S., Russell, D., Wood, E., & Galuppi, B. (1997). Development and reliability of a system to classify gross motor function in children with cerebral palsy. *Developmental Medicine & Child Neurology*, 39, 214-223.
31. Pennington, L. & McConachie, H., (2001). Predicting patterns of interaction between children with cerebral palsy and their mothers. *Developmental Medicine & Child Neurology*, 43, 83-90.

32. Pennington, L., Goldbart, J., Marshall, J. (2004). *Speech and language therapy to improve the communication skills of children with cerebral palsy.* (The Cochrane Library, Issue 3) John Wiley, Chichester; .
33. Pirila S, van der Meere J, Pentikainen T, et al. (2007). Language and motor speech skills in children with cerebral palsy. *J Commun Disord*; 40: 116–28.
34. Reichle J, York J, Sigafoos J. (1991) *Implementing augmentative and alternative communication.* Baltimore, MD: Paul H. Brookes.
35. Rosenbaum, P., Paneth, N., Leviton, A., Goldstein, M., Bax, M., Damiano, D., ... Jacobsson, B. (2007). A report: The definition and classification of cerebral palsy April 2006. *Developmental Medicine and Child Neurology*, 49(SUPPL.109), 8-14.
36. Schlosser, R. W., & Raghavendra, P. (2004). Evidence-based practice in augmentative and alternative communication. *Augmentative and Alternative Communication*, 20, 1–21.
37. Schlosser, R. W., Sigafoos, J., & Koul, R. K. (2009). Speech output and speech-generating devices in autism spectrum disorders. In P. Mirenda & T. Iacono (Eds.), *Autism spectrum disorders and AAC* (pp. 141–169). Baltimore: Paul H. Brookes Publishing Co.
38. Sigurdardottir, S., & Vik, T. (2011). Speech, expressive language, and verbal cognition of preschool children with cerebral palsy in Iceland. *Developmental Medicine & Child Neurology*, 53, 74–80.
39. Singhi, P.D., Jagirdar, S., Khandelwal, N., Malhi, P., (2003). Epilepsy in children with cerebral palsy. *Journal of Child Neurology* 18:174-179.
40. Solaski, M., Majnemer, A., Oskoui, M., (2014). Contribution of socio-economic status on the prevalence of cerebral palsy: a systematic search and review. *Dev Med Child Neurol.* ;56:1043–1051.
41. Todman, J. (2000). Rate and quality of conversations using a text-storage AAC system: Single-case training study. *Augmentative and Alternative Communication*. 16 (3): 164–179.
42. Vanderheide, G. C. (2002). A journey through early augmentative communication and computer access. *Journal of Rehabilitation Research and Development*. 39: 39–53.
43. Vos, R. C., Dallmeijer, A. J., Verhoef, M., Van Schie, P. E. M., Voorman, J. M., Wiegerink, D. & Becher, J. G. (2014). Developmental trajectories of receptive and expressive communication in children and young adults with cerebral palsy. *Developmental Medicine & Child Neurology*, 56, 951–959.
44. Warrick, A., (1998). *Communication without Speech: Augmentative and Alternative Communication around the World.* Toronto, ON: International Society for AAC

CHAPTER 3
INTERDISCIPLINARY
INTEGRAL INFORMAL METHODS
OF SUPPORT

3.1 Resonant technologies of psychological help to children with Rett syndrome

In the following paragraph we will present to your attention the method of resonant co-creation. The modalities of the resonant co-creation method (MRC: Resonante Cokreation, Sibgatullina-Denis I. / Grüssl S., 2002) were first described in Austria in 2002. It took many years to understand how effective the method can be in different cases of its application. The method of resonant co-creation was created by scientists and practitioners: psychologists and artists, physicists and doctors. The method is based on the practice of resonant use of artistic images of art. In a certain sense, we can say that art is not just a means of emotional “infection,” but invariably a more important means for a person, having biological significance.

Art is associated with an internal mental contradiction between the rhythmic functioning of most human organs and the acyclicity of the mental activity of his brain, capable of taking a person out of the general rhythm of his own biological nature” (Shevchenko Yu.S.). Many scientific interests are hidden in this hypothesis. One of them is how much art can play a balancing psychological role, become a psychological resource for a sick person, accompany complex and long periods of drug therapy, including in the treatment of rare diseases. We call this the ability of the method to “accompany” medical treatment strategies and saturate the life of a sick person with events of inner sensations from an encounter with art.

The method of resonant co-creation and art therapy should not be confused. Yes, their foundations converge on the idea of using the means of art and creativity, technologically expressed techniques, but practices diverge at the stage of applying these techniques. In the former case, it is necessary to rely on ready-made, already created artistic images, in the latter, images are created through self-expression. At the VIII World Scientific Congress on Rett Syndrome (Russia, 2016), the authors of the monograph told specialists that the method (MRC: Resonante Cokreation, Sibgat-

ullina-Denis I. / Grüssl S., 2002) can be used in complex rehabilitation care for children with Rett syndrome to establish stable emotional contact and stabilize the indicators of decline, slowing the regression of mental development.

The teaching functions of the resonant co-creation method have not been mentioned in this context before, since inclusive education specialists are just beginning to work with the method as a practical tool in correctional development programs, for example, speech and imagination. In this case, specialists are focused on the search for psychological and correctional-pedagogical tools for overcoming a rare disease and use the practice of using “image skills” (enhancing the novelty of the event, brightness of perception, hindering stereotypes, maintaining an ensemble of images and colors) or “rhythmic skills” (the inner power of sounds, movements, the transmission of rhythm through internal sensations) as an element of complex therapy.

The method of resonant co-creation (MRC: Resonante Cokreation, Sibgatullina-Denis I. / Grüssl S., 2002) is based on a natural scientific and psychobiological understanding of resonance (French: resonanse, Latin: resono – to respond) as a physical phenomenon of a sharp increase in the amplitude of forced oscillations, which occurs when the frequency of external influence approaches certain values (resonant frequencies) determined by the properties of the system. With the help of resonance, even very weak vibrations can be amplified and the subject of a conditional co-creative “dialogue” between a patient with Rett syndrome and a specialist can be highlighted. The permissible revealed stable values of creativity are minimal, but quite positively affect the overall development of socio-mental skills.

In the method of resonant co-creation (MRC: Resonante Cokreation, Sibgatullina-Denis I. / Grüssl S., 2002), it is the artistic image that fulfills a special mission. The method is based on the phenomenon of selective perception of images in children with Rett syndrome. The artistic image acts as a stimulus, a compelling force, and the child’s perception of it as, in fact, an oscillatory system. In wor with children with Rett syndrome, a resonant phenomenon is that at a certain frequency of the compelling force

of viewing a bright artistic image, the oscillatory system of brain activity turns out to be particularly responsive to the action of this force.

As the main prerequisite for the perception of an artistic image, the method of resonant co-creation (MRC: Resonante Cokreation, Sibgatullina-Denis I. / Grüssl S., 2002) considers the degree of formation or non-formation of the prefrontal cortex corresponding to Rett syndrome, with the advantage of right-hemisphere activation. We noticed that both productive and negative symptoms can be reflected in the creativity of a sick person in different proportions. The prognosis of the creative component depends on the degree of the disease, the maturity of the patient's personality, the cultural environment and communication. However, the practice of working with patients with rare diseases has shown that each individual ill person will remain productive and informally creative as long as the proportion between personality and illness will maintain the priority of the first over the second. Unfortunately, the inverse formula does not "work" here. This meant for the researchers that the applicability of the method is more effective the less the disease prevails over the preserved resource.

Interesting fact. History, for example, knows the fact that the famous Van Gogh spent the last months of his life in Auvers, where he was under the medical supervision of Dr. Paul Gachet. Van Gogh worked a lot at this time on creating artistic images, but in an unusual manner for him. One of these works was painted by the artist during the period of treatment for anxiety depression, accompanied by illusory hallucinatory perception deceptions, delusional ideas and emotional impoverishment. Subsequent art criticism analysis, jointly made with psychoanalysts and clinical psychologists, showed that many works of that period were full of painful confusion, and the artist's condition itself was visibly improved. Artistic images, rhythm, form, colors resonated with the inner picture of Van Gogh's illness, the effects of Dr. Gachet's therapeutic actions. So, we can say that productive symptoms can provoke a surge of creative activity, but negative, regressive symptoms gradually lead to a decrease in productivity and the loss of the artistic side of the work of art.

A pediatrician, a neurologist, a rehabilitologist, a correctional teacher, a psychologist and an artist and/or an art psychotherapist participate in comprehensive psychological and pedagogical accompanying care for children with Rett syndrome. Specialists join forces and jointly form mental neoplasms in children with this rare disease. The work takes place individually and in short sessions. The linguistic component of the method is minimal, but varies according to the consideration of each individual case in practice. The possibilities of using the method vary, but the clinical aspect may be preserved or not in demand. It depends on the decisions of the team of specialists who conduct the maintenance program.

Psychological, correctional, pedagogical and rehabilitative practice of the resonant co-creation method (MRC: Resonante Cokreation, Sibgatullina I. / Grüssl S., 2002) occurs systematically and is always aimed at working with an artistic image of different content, different form of expression and color. For the systematic use of the method, specialists need training and advanced training in the field of comprehensive and accompanying care for children with rare diseases. The special training program includes a theoretical module for studying the method of resonant co-creation (MRC: Resonante Cokreation, Sibgatullina I. / Grüssl S., 2002), a module of practical skills and the organization of supervision. The training is conducted by Russian and Austrian specialists, including developers of the clinical application of the method.

3.2 “Green” recreational methods in special pedagogics, restorative medicine and practical psychology

In this paragraph, we will talk about recreational green technologies using the example of the park retreat method. The method of park retreat (MPR: PARKRITRITUS, Sibgatullina-Denis, Teriaeva-März, 2005) is part of a resonant approach in matters of assistance and psychological support, including people with spe-

cial health needs and those living in metropolises. In a certain sense, the idea of a park retreat is not new, but when applied to psychological rehabilitation and support programs, it can be used for correctional “green” special pedagogical programs and in rehabilitation medicine.

The method of park retreat in its initial development was aimed at preventing the syndrome of dyssynchrony of mental development of residents of megacities. In particular, it was about the syndrome of social dyssynchrony, expressed in a violation of communications, “working” stress, chronic fatigue, etc.

Nowadays, the developers of the method have added a vector capable of applying the method in correctional pedagogy, balneology and rehabilitation. In this case, at its core, the method of park retreat (MPR: PARKRITRITUS, Sibgatullina-Denis, Teriaeva-März, 2005) is a form of psychological and environmental prevention of emotional stress, contributing to improving the quality of life, as well as in combined care for people with motor health problems. With a decrease in kinesthetic sensations, the method of park retreat uses “reliance” on awareness of the psychological structure of movements. Recall that the sensations of movement of individual parts of the body, kinesthetic sensations are caused by excitations coming from proprioceptors located in joints, ligaments and muscles. Thanks to kinesthetic sensations, a person with one’s eyes closed can determine the position and movement of his body parts. Impulses entering the central nervous system from proprioceptors due to changes occurring during movement in the muscles cause reflex reactions and play an essential role in muscle tone and coordination of movements. Every movement performed is controlled by centripetal impulses of proprioceptors. The “loss” of proprioceptive stimuli can lead to a more or less significant disorder of coordination of movements.

The park retreat method (MPR: PARKRITRITUS, Sibgatullina-Denis, Teriaeva-März, 2005) can partially correct this violation. Kinesthesia, in general, is in close interaction with vision, and therefore in the method of park retreat, the modes of visual perception are used, in particular park space, with its entire set

of colors, aesthetic forms and landscape idea. On the one hand, the visual assessment of distances in a person to whom the impact of the park retreat method is directed (MPR: PARKKRITRITUS, Sibgatullina-Denis, Teriaeva-März, 2005) is developed under the control of kinesthetic sensations; on the other hand, visual-motor sensations are developed, including in the new experience of perception of the recreational landscape environment coordination begins to play a new role in new movements performed under the control of vision and “evoked” feelings. This happens even if these movements are not significantly different from the motor skills already acquired. In any case, they are new already because they contain an arsenal of emotions of the inner world of the person on whom the influence of the method is directed. That is, in the case of using the method of park retreat (MPR: PARKKRITRITUS, Sibgatullina-Denis, Teriaeva-März, 2005), the emotional state of a person, visual perception of the landscape and holistic inspiration from the aesthetic environment are “included” in the impact. Most often, these are positive joyful emotions from a sense of beauty, admiration, tenderness and delight. In conjunction with vision, touch, etc. kinesthetic sensations begin to “work” on the development of spatial perceptions and representations, reflection of feelings and, what is especially important for therapeutic pedagogy, on the development of motivation for creativity.

The role of the muscular sense “in the education” of vision, hearing and other senses was one of the first to be “noticed” by the outstanding Russian physiologist I.M. Sechenov. In a number of works, and especially in his well-known article “Elements of Thought”, I.M. Sechenov showed that spatial vision and eye measurement are carried out, firstly, with the help of proprioceptors of the eye muscles, and secondly, by repeatedly combining distance estimation, with eyes and hands or feet. According to Sechenov, the muscle is an analyzer not only of space, but also of time: “The nearness, distance and height of objects, the paths and speeds of their movements are all products of muscular feeling... Being fractional in periodic movements, the same muscular feeling becomes a meter or fractional analyzer of space and time.”

The use of the park retreat method makes it possible to study the effect of muscle feeling on creativity, which is essential for therapeutic and pedagogical work, in which specialists often use creative techniques of art therapy, resonance co-creation, fairy tale therapy, phototherapy, etc. Kinesthetic sensations are always more or less involved in the development of creative skills. An essential aspect of automating movements is the transition of control over their performance from exteroceptors to proprioceptors. Such a transition can take place when, for example, a pianist, having learned a piece of music, ceases to be guided by the visual perception of notes and the keyboard, trusting the art of his hand, and a person who has paralysis of the hand is able to draw perfectly with another part of the body, for example, with a healthy arm or leg, or holding a brush in his mouth. Such cases are known in practice and are in demand by researchers for understanding.

The method of park retreat (MPR: PARKRITRITUS, Sibgatullina-Denis, Teriaeva-März, 2005), in the above context can be applied, for example, in paresis or paralysis, to normalize muscle tone, in rehabilitation and spa programs. Also, in the period 2012–2017, the developer of the method repeatedly used it for therapeutic and pedagogical purposes in working with children with severe speech disorders or with gifted children who had a pronounced internal dyssynchrony syndrome associated with the cognitive sphere of development and manifested in problems of dysgraphia and dyslexia.

Note that speech is not only the sound pronunciation of words and sentences, but also the ability to comprehend and describe what you saw, the ability to describe your feelings, impressions, understand the logic of what others are talking about. The first possible reason for the delay in the appearance of speech or its absence may be hearing impairment. In this context, the method of park retreat (MPR: PARKRITRITUS, Sibgatullina-Denis, Teriaeva-März, 2005) is used as a tool for visual perception and eye contact with nature.

Speech is, first of all, the result of the coordinated activity of many areas of the brain. Therefore, the second reason for speech

delay is the defective work of certain parts of the brain that are responsible for speech activity. Consultation of a speech therapist and a specialist who knows the method of park retreat is especially important in cases where speech deficiencies are based on another, third, reason is the violations in the structure of the vocal apparatus. In this case, the speech therapist includes in his program the accompanying psychological elements of a contact “meeting” with nature, landscape recreation.

The fourth reason for the delay in speech development is the poor quality of the “nutritious” speech environment, the possibilities of “descriptive practice” of speech, the speech activity of the environment. In all cases, we note this especially, only comprehensive assistance and technological techniques combining the best park retreat techniques are effective (MPR: PARKRITRITUS, Sibgatullina-Denis, Teriaeva-März, 2005).

In balneology, park retreat is often used in rehabilitation programs with people who have survived a stroke, heart attack. Currently, the developers of the method are actively describing additions in practice in this area of application. For example, the value of terrains, that is, specially constructed routes for landscape walks with a special physiotherapeutic calculation of time and load, relevant to the characteristics of the patient’s illness, his level of recovery after the disease, volitional activity and personal characteristics.

The autonomy of park retreat (MPR: PARKRITRITUS, Sibgatullina-Denis, Teriaeva-März, 2005) as a method of psychological support is determined by the special procedural privacy of a person (and a specialist) in park recreation. This procedure is therapeutic and aesthetic in nature. A person does not travel long distances, but staying in a park recreation, he is able to find a natural environment for “tuning in” to a creative style of thought, reflection and analysis of the rules of internal dialogue. A psychologist and a correctional teacher accompany this.

The scientific mechanism in the park retreat is represented by non-classical theories of natural science, the psychoanalytic concept of delayed action, a nonlinear approach in the organization

of psychological prevention programs. It is also fundamentally important in the method of park retreat that all transformations of mental phenomena, processes and experiences occur naturally in a special rhythm of human interaction with the environment of the park and park culture, a “retrospective echo” of human life events and his memory of them.

We highlight that the method of park retreat is completely opposite to relaxation. Moreover, it does not matter to what extent a person’s health has been lost or to what extent he has (or does not have) a congenital defect or special cases related to his mental health and emotional state at a given time, the process of searching for self-fulfillment occurs in the form of a “smooth flow” of the eternity of nature and the timelessness of the unconscious, just as in conscious movements, thoughts and feelings. We are talking about new creations of healing inspiration, inner reflections, regulation of asynchronisms and imbalance of mental states and specific experiences of today. In the language of psychotherapy, the park forms of a symbolic being of a person becomes a part of his life at the moment “here and now”, moving through time to “there and then” and returning to the present again through the sensual side of being of this moment. In a certain sense, the park is considered in the method of park retreat as a recreational area for recovery, treatment and rehabilitation, but this recreation fully affects only when the person himself is involved in the process of realizing the motives and possibilities of recovery.

Brief information about recreation. The concept of “recreation” (Latin: *recreatio* — restoration) has several interpretations. The first interpretation is related to the restoration of strength, psychological and aesthetic complex of physical and spiritual health technologies implemented with the aim of “leveling” harmonious emotional well-being. The concept covers many types of recreation with meaning: sanatorium treatment, sports tourism, amateur sports and travel, recreational fishing, photographing natural and urban landscapes, privacy in a special aesthetic environment.

Sometimes recreation is called premises or specially designated places where a person can spend his free time. Such places are

called recreational facilities. The territories where recreational facilities are located are called recreational zones, and the totality of natural marine, mountain, park and landscape resources, historical and cultural objects are called recreational resources. Most often, recreational zones are divided into two types in different geographical places: 1) recreations that have developed historically due to the healing climate and unique natural conditions; 2) recreations that are currently being formed around significant recreational facilities.

The general characteristics of recreational resources are: aesthetics, picturesqueness, uniqueness, fame of the place or, conversely, “hiding from the eyes”, transport accessibility or, conversely, transport remoteness, special remoteness of a recreational place, service conditions determined by the recreational infrastructure of the location of the object, the opportunity to be in solitude or in rehabilitation programs with specialists of recreational programs, park retreat therapists, retreat consultants.

The method of park retreat (MPR: PARKRITRITUS, Sibgatullina-Denis, Teriaeva-März, 2005) can play an important role in the correction and treatment of such deconstructive deviations as self-alienation from full-fledged existence and/or emasculation of aesthetic perception, which are often characteristic of people who are in depressive states. Often such conditions, in turn, are associated with the internal course of internal diseases, ailments, acquired or congenital defects, or due to the stress of the suddenness of the incoming disease and the acquisition of the status of a disabled person (for example, with early strokes or early heart attacks). In this case, the park retreat programs include techniques of valeological aesthetics. The participants of the programs get an additional chance to realize the new value of semantic retreat-solitude, recreation, conditions of primary psychological self-help, the fullness of solitude with spiritual “work”, creativity, a new attitude to what happened. There is a time and a place to “slow down” yourself. Thoughts about “there and then” are transformed into thoughts about “here and now”, about park recreation as a natural natural psychotherapist. Subjectively new and objectively set become in the application of the method:

- the spatial structure of the park environment, which is facilitated by the human visual perception system;
- emotional attitude to nature and the form of the park environment, which is facilitated by emotional resonance, architectural landscape, aesthetic and subject environment of the park;
- rational, symbolic and symbolic meaning of the park;
- personal, aesthetic, spiritual, spiritual and even inspired attitude to privacy, which contributes to the formation and development of an individual philosophy of park impact, privacy in recreation.

If park retreat is used in therapeutic pedagogy or psychological programs, then it is of great importance that the person on whom the retreat is being performed understands the meaning of solitude and the meaning of unity. In this case, we are talking about a qualitatively new solitude or unity for a person, patiently prolonged solitude, solitude as a healing inspiration, healing spiritualization of oneself. If such programs take place in the context of general comprehensive programs of special pedagogy or psychological rehabilitation, support, support, then “tuning” to a creative “style” of thought, in which understanding the rules of internal dialogue, healing and aesthetic experience becomes an important element and the subsequent basis of individual or group psychotherapy.

We underline that the method of park retreat (MPR: PARKKRITRITUS, Sibgatullina-Denis, Teriaeva-März, 2005) is not original, but clinical, psychological or therapeutic and pedagogical in nature. From our experience, it can be said that the most responsive to the impact of the park retreat method are clients, patients or pupils who have features of defensiveness, that is, a passive-defensive response to stress associated with the loss of a habitual physical condition or a birth defect. This reaction to oneself and one’s worth is the exact opposite of active aggressive defensiveness and is often accompanied by a feeling of inferiority or low value. The forms of behavior of defenses are also peculiar: from going into deep silence, a “orangery” tendency to neurotic withdrawal, sometimes even inhibition, a combination of tension and shyness.

The method of park retreat (MPR: PARKRITRITUS, Sibgatullina-Denis, Teriaeva-März, 2005) is very technologically inexpressive, but clinically realistic and effective, filled with humanism towards man. By the way, many medical and pedagogical schools, rehabilitation centers or clinics are specially located in recreation areas of natural nature and use the park landscape as a special environment for the use of retreat programs. Let's also pay attention to the fact that a park retreat can become an opportunity to find your "internal parking" and refer to it as an internal resource. The formation, development and enrichment of an individual internal resource, in this case, contributes to a person's self-expression in communication with others, with doctors and teachers, psychologists and psychotherapists, and most importantly, with himself. There is a leisurely self-affirmation, a conscious spiritual individuality is accepted, there is a weakening of the asthenic conflict, there is a feeling of a surge of natural forces and even natural longevity. At least, those who have experienced the method for themselves in recovery programs have talked about it.

It is fair to note that the retreat is used in the psychotherapeutic treatment of people with both physical and mental disabilities. In European clinics, in almost every place of hospital territory, there are *terrencuors* (from the French *terrain* – terrain and *cours* – course of treatment) routes for different groups of patients. As noted above, *terrencuors* is a method of retreat, which is carried out by natural physical exercise – walking along a certain route for the purpose of physical and psychoemotional recovery. When overcoming such routes, endurance improves, the activity of the musculoskeletal system is regulated, the tone of blood vessels, muscles, neuropsychiatric state, mental activity is restored. Park spaces with developed *terrencuors* routes for rehabilitation patients after physical and psychoemotional injuries, strokes and myocardial infarctions, in the case of obesity treatment, digestive system disorders and in cases of other pathologies are most often found in inclusion. *Terrencuors* routes are often organized in attractive landscape locations to provide a connection with natural

nature, the nature of the park, even if this park is part of the clinic's territory.

But there is another view of the retreat as a completely independent system. This approach is used, for example, by ecologists or ecopsychologists. In this case, the reference ecosystem of the retreat assumes the presence of visit centers. It is interesting that, while researching the topic of retreat for many years, we have come across the fact that visit centers often offer not a spa or rehabilitation course, but a meditation format. You can agree with this or not, but the fact remains that there is also such an application of the retreat. To distinguish one from the other, a special spelling is also used: a retreat with an accent on the first syllable is replaced by a retreat with an accent on the second syllable. The purpose of the retreat is more often teaching the theory and practice of meditation, developing motivation to follow the path of self-development and self-improvement, but in a certain sense, not related to psychology, but related to spiritual practices. The main function of the retreat is to give a person the opportunity to learn and practice meditation in a quiet and peaceful place, away from civilization, its interference in everyday life. You can call it a leap from the rational to the... unknown about yourself.

But there is something in common. In both cases (both retreat and retreat), solitude is considered as a two-way relationship of a person in a dialogue with himself. For example, on the one hand, a person aspires to change, but at the same time, in the conditions of a retreat (or retreat), he realizes for the first time that he has never even formulated to himself what he is actually striving for and how it may look in reality. One patient once said that the retreat for him became an awareness of the "halfness" of his life. One half, connected with the picture of his illness, was with him, and the other half, connected with the picture of recovery, was not realized by him. And only after the park retreat programs, he was able to realize the "picture of recovery" and, most importantly, follow it. On the other hand, we are talking about the psychotherapeutic effect of retreat. This refers to such a situation when a person admits that he has experiences or negative thoughts about

himself, feeling his condition. He even understands where they came from and what could have provoked them, but at the same time he develops an enviable fortitude to let go of what he wants to let go forever.

In general, the park retreat goes well with the psychological work that people do during psychotherapy. But in no case does it replace psychotherapy.

For a complete understanding and identification of the psychological possibilities of the retreat, perhaps it is necessary to recall another phenomenon in human behavior that is associated with it. This is retreatism as a form of deviation. More often in the sociological than in the psychological literature there is a definition of retreatism as a type of behavior that is associated with the rejection of approved goals and institutional means of life in society. This type of deviation could be characterized as a desire to escape from reality, rejection of one's social world. Members of society with such an orientation do not accept either the dominant social goals in the minds of the majority, nor socially approved means of achieving them. These are people "not of this world" — hermits. Purely statistically, the number of such individuals cannot be large in any society, it simply cannot accommodate enough "strange" people. Usually, retreaters are people rejected by society. They can be vagrants, alcoholics, drug addicts. But not only that. If society is in a state of anomie, those who are experiencing a stream of failures, who for various reasons may be "driven into a social impasse", can join the retreaters. In this case, the reason for retreating is not only in the personal qualities of a person, but also in the very institutional non-functionality and even dysfunctionality, as a result of which a person "escapes" from society to a special recreation. Downshifting has become an example of modern forms of retreat. This is a process of voluntary refusal of people from demonstrative excessive consumption, transition to an economical lifestyle, as well as rejection of career, career mobility in favor of meaningful no less labor-intensive forms of activity that harmoniously fit into the individual ecological balance of a person.

3.3 Support of social inclusion of individuals with mental disabilities using innovative sexual education

Recently, the right of individuals with mental disabilities to a partner and sexual life has been increasingly discussed. This issue includes the opinions of individual experts, such as doctors (gynecologist, sexologist, urologist, psychiatrist, etc.), special educators, social therapists, but also parents, loved ones and, last but not least, the person with a mental disability. The public is contradictory to the sexuality of individuals with mental disabilities. Some are fundamentally opposed, as it is generally believed that these individuals are asexual and therefore incapable of sexual activity. On the other hand, there are more and more voices emphasizing and supporting the right of the mentally handicapped to sex life.

So, if we are talking about the equality of people with mental disabilities, we must also take this important aspect of their lives into account.

Sex education of individuals with mental disabilities. Sex education of the mentally handicapped is an important part of preparing these individuals for an active sex life without physical or psychological risks.

As stated by Šustrová (2008), sexual hygiene and sexual life are issues that society has avoided in the past as a sensitive issue, even though it is part of a full life. Sexual hygiene and sexual education for people with special needs should be essentially the same as for people without this disability, only it needs to be adapted to their understanding and degree of disability.

In general, there are four basic issues that sex education should address:

1. What exactly is sexuality.
 2. How to deal with it.
 3. Which methods are appropriate, and which are inappropriate.
 4. How to deal with dangers in this area.
- (Brožová, cited according to Švarcova, 2011)

According to Popper (2002), the sexual education of people with mental disabilities should be focused on four groups:

Group 1 - future trainers and teachers of sexual education of individuals with mental disabilities, while courses should be focused on the following topics:

- Equality and human rights
- Knowing your own body
- Increasing self-esteem and self-confidence
- Creating friendly and partner interpersonal relationships
- Masturbation and non-coital activities
- Pregnancy, childbirth, family
- Protection against unwanted pregnancies, sexually transmitted diseases and HIV
- Resistance to sexual coercion and abuse
- Gender specifics
- Peculiarities of sexuality of people with mental disabilities, where the degree of disability and the biological, psychological and social age of individuals in the target group must be respected.

Group 2 - staff caring for people with mental disabilities, with McCarthy and Thompson (1997, cited in Šustrová, 2008) emphasizing that sexuality education is useful not only for people with special needs themselves, but also for staff, and for the following reasons:

- realize better that people with special needs are also sexual beings, that their sexuality is not fundamentally different from the sexuality of anyone else;
- promote and facilitate the sexual education of people with special needs;
- they will not be afraid, as before, of the consequences of the sexual life of people with special needs;
- be better informed about the peculiarities of mutual partnerships and sexuality of the mentally handicapped, which are different from his / her own experience;
- further disseminate optimal strategies (health policy) and ways of working with people with mental disabilities in the field of

sexuality and, where none yet exist, point to the need to develop them;

- increase their self-confidence if they were to take part in sex education for people with special needs.

Group 3 - parents of people with disabilities. They should also participate in sex education programs to understand the sexual needs of their children and not to fear their manifestations of sexuality, but on the contrary to be able to provide them with adequate support (Popper, 2002).

Parents are extremely important members of the team that accompanies the mentally handicapped in preparation for life and in most cases in adulthood. They should participate in the sex education of their children, because, as Šedá states (In Kolektiv autorov, 2004, p. 71), „*sex education should start practically from the birth of a child*“.

Group 4 - individuals with mental disabilities, who form the most important target group of sex education. The inspiring material for work in the field of sexuality of people with mental disabilities is the training manual of Dixon (1988, cited according to Juhásová, 2012). Through the manual, clients can be educated in the field of perception of their own body, hygiene and lead to the development of basic communication skills, decision-making for themselves in the field of sexuality. It offers a wide range of group interactive exercises along with a rationale for their usefulness:

- Communication - as people with mental disabilities often have problems with both verbal and non-verbal communication, they can increase their social competence in building partnerships through the development of communication skills. The exercises in this part are mainly focused on eye contact, touch, talking, listening, trust, cooperation, expressing feelings.
- Body awareness - when consolidating our own self-esteem and building good relationships with other people, it is important to learn to be aware of ourselves, our body, our feelings, what we like about us. Since people with mental disabilities usually have very vague, often missing or negative ideas about their own body, they formulate negative thoughts about touch. Ex-

ercises are therefore focused on self-awareness and increasing self-confidence.

- Self-esteem - the exercises in this section aimed at identifying the positive aspects of oneself as well as others and respecting each other, which ultimately contributes to taking more responsibility for oneself in contact with other people.
- Taking care of yourself - taking care of yourself is not only an important part of your own health and self-esteem, but also the health and well-being of others. This section therefore includes exercises focusing on changes during puberty (including menstruation) and related circumstances that affect physical, mental and emotional health. Emphasis is also placed on recognizing the differences between public and private spaces and behaviors.
- Relationships - this section focuses on the acquisition of social skills that help develop relationships with other people. The techniques offered mediate the practice of recognizing full-fledged partnerships from abuse.
- Sexual Being - The exercises in this section focus on exploring one's own sexual feelings, masturbation, degrees of partnering, non-coital and coital activities, the ability to decide what is and what is not sexually pleasing, and the ability to refuse sexual activity.
- Pregnancy, childbirth, parenthood - although many women with a mental disability can never get pregnant and many men with a mental disability do not have the ability to conceive a woman, there are still a significant number who can produce offspring. Therefore, it is important that they are educated about what pregnancy is, childbirth and what obligations, duties and responsibilities parents have towards their children.
- Sexual health - people with mental disabilities are educated about sexually transmitted diseases, ways to prevent them. Exercises in this part are mainly focused on the presentation of contraceptive options and protection against sexually transmitted diseases.

According to a sexologist (Procházka, In Kolektiv autorov, 2009), sex education for sexually healthy people with mental disabilities should include the following points:

- Count with less understanding, but choose correct terms, explain (repeatedly).
- Vulgar expressions lead to an emotional reaction and loss of attention.
- Count on faster fatigue (broken down into several blocks).
- Count on internalized negative attitudes towards sexuality and break them down.
- Use tools, nonverbal communication.
- Integration of sexuality into social relationships, creation of conditions for the sexual life of clients (privacy, tolerance, openness in communication).
- Masturbation is possible, but it is not the only possibility of sexual discharge (shouting, orgasm in sleep).
- They can survive anything, but they must behave responsibly.
- An individual with a mental disability may fall in love with a caregiver, a social therapist, but the responsibility always lies with the worker.
- Sexual devices pose a risk - jamming in the cavity, injury, hygiene.
- Cognitive disability does not mean emotional handicap.
- Try to present moral principles without moralizing.

According to Šustrová (2008), it is necessary to inform parents or other relatives about the sexual education of people with special needs. Those in daily contact with people with special needs can be helpful in sex education. Emphasis should also be placed on an individual approach and the ability to understand a given topic should always be monitored in the form of an interview. In sex education, it must be reiterated that violence in relationships and in sex is unacceptable.

Experts working directly with people with mental disabilities agree that sex education can only be implemented on the basis of an individual approach to clients, given the severity of their degree of disability. For individuals in the zone of deep mental

retardation, sex education is problematic, in many cases it would probably not bring the desired result. Some of those affected may experience pleasure, for example in response to touch, but it is debatable whether or to what extent it is a manifestation of sexual instinct. As a result of a profound degree of mental disability, the manifestations of sexual instinct are mostly persistently latent.

In the sexual education of individuals with mild and moderate mental disabilities, emphasis must be placed on the social area. Ability to talk together, understand each other, resolve conflicts. Information needs to be made available to clients in a short, very specific form, using simple terms. The best way is to learn through play and experience the game. Suitable topics are: male and female differences, maintaining physical hygiene, cultivating sexual instinct (learning the principle that sexual behavior is an intimate thing and does not belong to the public), orientation in who is a stranger and who is a friend, when it is necessary to stop expressions of affection, how to protect yourself from sexual violence, friendship, love. The most suitable methods of sexual education are dialogical methods (free or guided dialogue), staging methods (thematic and role plays, puppet and puppet play), working methods (handicrafts, cooking, workshop work, cleaning work), music therapy (dance, play on musical instruments), sports (Mokrá, 2012).

An example of the implementation of sexual education in the conditions of a home of social services sex education in institutional conditions has several pitfalls. Certain conditions for the implementation of sex education should be met, e.g. co-education of the facility, the possibility of establishing social contacts with the wider environment, the integration of clients into society, reducing the number of clients in the rooms, enough privacy and respect for the intimacy of clients.

We present one of the possibilities of implementing sex education in institutional conditions.

In the field of sexual education of individuals with mental disabilities, three areas intersect:

1. cognitive (cognitive) - consisting in understanding and acquiring a certain amount of knowledge,

2. emotional - characterized by acceptance and formation of opinions and attitudes,

3. will - manifested in actions and behavior in which the target area is the will.

From these areas we have several goals that can be fulfilled through sex education.

- Expressive means, such as movement, gestures, haptics, to introduce the topic of human sexuality and emotional affection to clients.
- Take into account the needs and ideas about the behavior of men and women, support an individual attitude to their own sexuality.
- To teach clients that they have the right to freely develop and make decisions for personal development within their means.
- Taking responsibility for your sex life and behavior - "Just as much rights as there are responsibilities!"
- Explain to clients the content of the concepts of friendship, love, marriage, family, sex.
- Help clients develop positive self-confidence, cultivate self-esteem and develop respect for others.
- To cultivate in clients the ability to choose on the basis of the right decision, even if they are exposed to negative pressure (assertiveness).
- Shape clients' social skills in interaction with others: create and manage relationships.
- To lead clients to the formation of personal safety, to know the differences between appropriate and illegal body touches.
- To lead clients to gradually realize and master their sexual role with regard to social - moral norms of mutual behavior, to emphasize the importance of friendship and friendship, which helps to develop interpersonal relationships - empathy, communication skills.
- Lead clients to understand love as an essential component of sexuality.
- To provide clients with adequate information about the anatomy and physiology of the reproductive system of women and

men, to acquaint them with the process of reproduction, intrauterine development of the fetus, including the course of pregnancy and childbirth.

- Explain to clients the risk of sexual activity - sexually transmitted diseases, unwanted pregnancy.
- Emphasize the need for clients to observe personal hygiene.
- Educate clients in an appropriate way about the ethics of intimate life.

Criteria for selecting clients:

- Approximately the same mental and social age.
- Willingness of parents to communicate and cooperate in the topic.
- The same number of boys and girls, respectively. men and women, as we are talking mainly about adult clients.
- Small community (max. 8 clients).

Criteria for choosing a lecturer

- Graduate of training on sex education for people with special needs.
- Experience working with clients with mental disabilities.
- Male - there is no male role model in all social services facilities.
- The partner for some topics will be the social worker of the facility.

Conclusion. At the end of our article we present problematic areas that may occur during the implementation of sexual education in institutional conditions, as published by Kozáková (In Kolektív autorov, 2004).

a) Problem areas related to the possible risks of the “institutional facility”:

- Large “institutional facilities” (risk of loss of privacy, isolation, abuse, confusion of roles, need to adapt to the regime, the needs of other citizens).
- Uncoated types of equipment (frequent pseudo-homosexual relationships).
- Lack of client privacy.
- „No time“ to solve „these problems“.

- It is not always in the client's interest (often personal convenience).
- The unnatural nature of institutional care (eg family-run facilities are missing in year-round facilities).
- Insufficiently addressed "basic rules" of partnership and sexuality of persons in the facilities - uniformity in procedures and approach of staff is essential.
- b) Problem areas related to the specifics of learning of individuals with mental disabilities:
 - Sex education reflects the general specifics of learning for people with mental disabilities.
 - Interpretation alone is not enough, they cannot transfer experience to a typical situation, we are not satisfied with the forms of work used in the intact population, a higher degree of concretization and clarity is needed, not only appropriate information, but also social skills training.
 - The ideas of clients without sex education and the possibility of natural contact with the opposite sex are often idealized, unrealistic, and romantic films are often a model.
 - Clients often fail to enforce their rights.
 - Common dating problems that are often supported by limited contact with the outside world.
 - c) Problem areas related to the attitudes of staff, parents:
 - Man's own inhibitions, shame.
 - Shame to take care of any problems with the child's parents.
 - Prejudices, taboos, "closing your eyes" to problems - trying to solve them "in silence" and as quickly as possible.
 - Approaches that situate the client in the role of a lifelong child.
 - Punishment (without explanation) for sexual manifestations (masturbation).
 - Evaluation based on our perception of "normalcy" - we are not based on the needs of the client, but on what we consider "normal".
 - Application of our own measures and attitudes.
 - Insufficient training of staff working with clients - how to respond and solve problems correctly.

- Lack of literature, professional training, training of psychosocial skills.
- Reluctance to take an interest in the problem.
- Attitudes of the device in conflict with their own attitudes.
- Discrepancy between the wishes and attitudes of parents and facilities.
- Cooperation with a family that does not want to hear about this issue.
- Inappropriate presentation of sexuality in the media.

The study was conducted for the development of inclusive education (involved expert PaedDr. Prečuchová Štefanovičová Andrea, PhD).

References 3.3:

1. Amtmannová, E. et al. 2007. Aplikovaná muzikoterapia. Cit. 10.10.2012. Dostupné na internete: http://prolp.files.wordpress.com/2008/02/aplikovana_mt.pdf, 58 s. ISBN 978-80-969813-7-3
2. Arpáš, R. – Kruzslíková, E. 2011. Tématický plán – Sexuálna výchova. Bratislava: DSSpKM, 2011.
3. Dohovor OSN o právach ľudí so zdravotným postihnutím. Bratislava : ZPMP v SR, 2009. ISBN 978-80-89344-02-4. Dostupné na internete: <http://www.zpmpvsr.sk/dokum/dohovorOSN.pdf>
4. Drobný, I. – Drobná, M. 1987. Biológia dieťaťa pre špeciálnych pedagógov. Bratislava: UK, 1987. 152 s.
5. Herrath F. 2009. Was behindert Sexualität? Cit. 21.10.2012. Dostupné na internete: <http://www.isp-dortmund.de/downloadfiles/Vortrag%20Sexualit%E4t%20und%20Behinderung%20Herrath%202009.pdf>
6. Charta sexuálnych a reprodukčných práv IPPF. Cit. 19.9. 2012. Dostupné na internete: http://www.rodicovstvo.sk/ippf_charta.htm
7. Jesenský, J. 1995. Uvedení do rehabilitace zdravotně postižených. 1. vyd. Praha: Univerzita Karlova – Nakladatelství Karolinum, 1995. 159 s. ISBN 80-7066-941-1
8. Jesenský, J. 2000. Andragogika a gerontagogika handicapovaných. 1. Vyd. Praha: Univerzita Karlova – Nakladatelství Karolinum, 2000. 355 s. ISBN 80-7184-823-9
9. Juhásová, A. Metódy a techniky sociálnej rehabilitácie osôb s mentálnym

- postihnutím. In *Most k partnerství – Sborník konference Jihlavske zdravotnicke dny 2012*. Jihlava: Vysoká škola polytechnická, 2012, s. 348 – 361. Dostupné na internete: https://most.vspj.cz/files/36/sbornik_jihlavske_zdravotnicke_dny_2012.pdf
10. Kolektiv Autorů. 2004. *Sexualita mentálně postižených*. Praha: o.s. Orfeus. 2004. 80 s. ISBN 80-903519-0-5
 11. Kolektiv Autorů. 2009. *Sexualita mentálně postižených – II*. Praha: o.s. Orfeus, 2009. 144 s. ISBN 978-80-903519-7-4
 12. Kvapilík, J., Černá, M. 1990. *Zdravý způsob života mentálně postižených*. 1. vyd. Praha: Avicenum, 1990. 136 s. ISBN 80-201-0019-9
 13. Kruzslíková, E. 2003. *Poradenstvo pre rodičov klientov s mentálnym postihnutím v oblasti sexuálnej výchovy v Domove sociálnych služieb prof. Karola Matulaya*. Záverečná práca. Bratislava, 2003.
 14. Matulay, K. 1986. *Mentálna retardácia*. 1. vyd. Martin: Osveta, 1986. 344+8 s.
 15. Mokrá, K. 2012. *Sexualita a sexuálna výchova mentálne postihnutých klientov*. Cit. 10.10.2012. Dostupné na internete: <http://www.dsshrabiny.sk/userfiles/file/Sexualita%20a%20sexu%C3%A1lna%20v%C3%BDchova.pdf>
 16. Popper, M. 2002. *Špecifiká sexuálnej výchovy u mentálne postihnutých osôb*. In *Informácie*
 17. ZPMP v SR, 2002, roč. X., č. 4, s. 12 – 14. ISSN 1335-8197
 18. Prevendárová, J. 2001. *Sexualita a sexuálna výchova mentálne postihnutých ľudí*. In *Efeta*, 2001, roč. XI., č. 4, s. 8–11. ISSN 1335-1397
 19. Pružinská, J. 2005. *Psychológia osobnosti*. 1. vyd. Bratislava : Občianske združenie Sociálne práca, 2005. 152 s. ISBN 80-89185-05-3
 20. Šimanovský, Z. 1998. *Hry s hudbou a techniky muzikoterapie ve výchově, sociální práci a klinické praxi*. Praha: Portál, 1998. 246 s. ISBN 80-7178-557-1
 21. Šprunk, K. 1998. *O povinnosti*. In *Distance – revue pro kritické myšlení*, 1998, č. 1. [online] Dostupné na internete: http://www.distance.cz/index.php?option=com_content&view=article&id=6&idc=209&Itemid=53
 22. Šustrová, M. 2008. *Mentálna retardácia. Sociálna práca v prospech ľudí s mentálnym postihnutím*. Bratislava: Vysoká škola zdravotníctva a sociálnej práce sv. Alžbety, n.o., 2008.
 23. Švarcová, I. 2011. *Mentální retardace*. 4. vyd. Praha: Portál, 2011. 224 s. ISBN 978-80-7367-889-0
 24. *Učebné osnov Výchovy k manželstvu a rodičovstvu*. Dostupné na internete: http://www.statpedu.sk/files/documents/svp/1stzs/isced1/ine_dokumenty/

- vychova_k_manzelstvu.pdf).
25. Vančová, A. 2014. Inovácie v teórii, metodológii a praxeológii pedagogiky mentálne postihnutých. - 1. vyd. - Ostrava: Ostravská univerzita, Pedagogická fakulta, 2014. - 200 s.
 26. Vančová, A. - Kečkéšová, M. - Smetanová, D. 2017. Ochrana práv dieťaťa a rodiny v Slovenskej republike rámcovaná platnou legislatívou [elektronický zdroj]. - 1. vyd. - Bratislava: Slovak education publishing, 2017. - 217 s. [CD-ROM] ISBN 978-80-89834-03-7
 27. Vančová, A. - Prečuchová Štefanovičová, A. 2013. Sexuality and sexual education of mentally disabled people - part of quality of life in reflecting special education and special andragogy In: Paedagogica specialis 27. - Praha: Knihy nejen pro bohaté, 2013. - S. 6-36. - ISBN 978-80-86499-09-3
 28. Vančová, A. - Prečuchová Štefanovičová, A.: K možnostiam implementácie prvkov inkluzívneho prístupu v sexuálnej výchove mentálne postihnutých
 29. Recenzované. In: Speciální pedagogika nejen v inkluzivním vzdělávání [elektronický zdroj]. - Ostrava: Pedagogická fakulta Ostravské univerzity, 2013. - S. 208-226 [CD-ROM]. - ISBN 978-80-7464-232-6
 30. [Speciální pedagogika nejen v inkluzivním vzdělávání: mezinárodní konference. Ostrava, 13.-14.2.2013]
 31. Venglářová, M. – Brožová, V. 2009. Nové trendy v sexuální výchově. Praha: Národní institut pro další vzdělávání, 2009. 39 strán. ISBN 978-80-8695-652-7
 32. Všeobecná deklarácia ľudských práv. Cit. 14.9. 2012. Dostupné na internete: http://www.amnesty.sk/article_files/file/UDHRvSVK.pdf

3.4 Chirophonetic Therapy as a method to accompany child development (as exemplified by work experience of Natalia Kharitonova from Salzburg)

Chirophonetics – is a type of therapy based on the use of the therapist's speech sounds combined with the simultaneous fingering of the shape of the air stream emerging in the speaker's mouth while pronouncing a certain sound on the patient's skin. This therapeutic approach was developed by Alfred Baur (1925-2008) – an Austrian doctor of philosophy and speech therapist –

on the basis of Rudolf Steiner's Anthroposophy almost 50 years ago to give treatment to a three-year old boy who was unable to pronounce any sounds.

The word «Chirophonetics» means that with the help of one's hands [Ancient Greek: cheir – hand & phon – voice tone, sound] the sound is being transferred to the human body. The method was described by Alfred Baur in his book “Healing sounds: Fundamentals of Chirophonetics” (Bauer, 1989) in which he explained the fundamentals of the chirophonetic influence in detail. This book has become a background to explore the practical aspects of new speech therapy at the Chirophonetics School that was founded and led by Alfred Bauer till his dying day and that keeps working under the guidance of his students.

Chirophonetics allows the recipient to feel the great power concealed in every sound of our speech when the therapist pronounces them and applies the corresponding touches on the patient's back, arms or legs. The person hears the sound being pronounced and simultaneously feels with his skin the movement of the therapist's hands reproducing the shape of the air stream. Due to that the patient gains the experience of both audial and corporal perception that causes relaxation and at the same time awakens his attention. Each sound exerts unique influence on the entire patient's body: one sound has an awakening effect, another happens to be comforting or liberating.

Application domain of Chirophonetics. This therapy is used to facilitate speech and overall development; in cases of alalia or spasmophemia; in cases of mental or psychosomatic disorders such as anxiety, fears, failure of attention; in cases of traumatic experience; to accompany drug therapy (in cooperating with the doctor) for such chronic conditions as asthma, allergy, epilepsy, chronic fatigue, sleep disorders and etc.

Chirophonetic praxis at the Waldorf School in Salzburg (Austria). Natalia Kharitonova shares her story.

“...As a Russian language teacher at the Waldorf School I was present at the teacher's conference discussing the development problems of a first-grade pupil, and a question arose how to help

this boy to get access to Chirophonetic therapy. There were no such therapists in Salzburg at that time, however they were to be found in Linz. It was clear that the boy's parents would not be able to take him to the other city to receive therapy on regular basis. And this case has motivated me to make a decision to study this therapy at the Chirophonetics School in Linz. So, I had undergone training from 2001 to 2008 and completed my therapeutic education. My diploma allows me to give Chirophonetic therapy in cooperation with the doctor and to instruct parents on the application of sounds that are necessary for their child and the way of their practical use at home for curative purposes.

Let me offer you a case-study on the basis of my Chirophonetic praxis at the Waldorf School. The names of the children described in this article have been changed for ethical reasons. They retain only the first letters of the children's real names.

Roman, a seven-year-old first-grade pupil, has differentiated himself from his classmates by retarded speech development and evident lingual titubation. The boy was born to a bilingual family and was brought up by a German-speaking mother and an English-speaking father who hardly spoke any German. Soon after the kid's birth the mother was to get back to work and the father took a parental leave to take care of the child. As a result, the boy began to speak English, though it happened later than expected. At three years of age he began to attend the kindergarten along with the children who were German-speaking. The kindergarten demanded that he spoke German having told him the children would not play with him in case he fails to speak their language. These words have exerted such a traumatic influence upon the boy that during the next six months he has not pronounced a single word in any of his parents' language. During this entire period the doctor kept insisting he was suffering from mutism. And attending the kindergarten was already out of the question. Due to years-long treatment by speech therapist Roman managed to start speaking again, this time in German, however he began to stutter and steadfastly refused any speech therapy. While at school, Roman proved to be a clever, «sunny», vivid and cheerful kid. He

was very popular among the classmates. However, speaking came at a price because of the lingual titubation. In the middle of the school year the class teacher recommended the boy's mother to try to overcome his speech disorder with the help of Chirophonetics. That is how he came up for therapy to me. A preliminary conversation with the mother before the therapy started had revealed that besides lingual titubation the boy also had other problems: his night sleep was rather troubled and he also had fears. Having discussed the child's problems with the school doctor, I started working with him at school premises once a week. And the mother whom I instructed and taught all the necessary sounds and corresponding shapes has repeated them for the child on daily basis at home. Our first therapeutic goal was to solve all the sleep problems. To attain this goal we had been working with the audial row "L-AOUM" that the mother offered her son before going to bed and that gave him an enshrouding audial cover for the whole night. After two months of therapy the child could already sleep through the night without awakening.

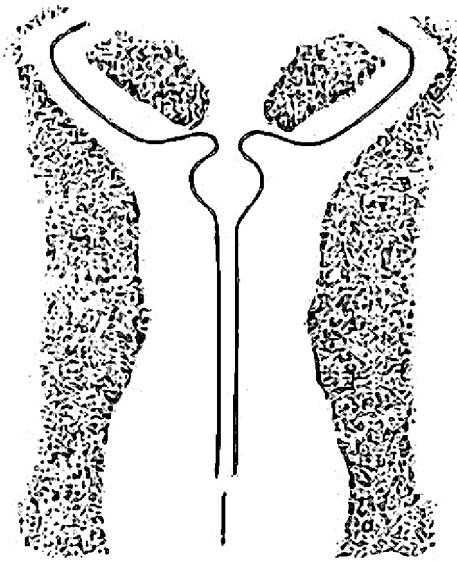
His intensive movements during the sleep – that nearly resulted in his falling from the bed – have also disappeared. After a month's break in the therapy because the boy had fallen ill with Chicken Pox, we renewed the course of treatment. However, the goal was already different. Our top priority was gaining courage in one's speech and developing spontaneous fluent speech. Sounds «L-I» stepped in to help us along with a brief poetic text devoted to courage and self-assurance. The sounds were pronounced very slowly as well as shapes on the body were being fulfilled also slowly. In addition to that, we used a syllable "LUM" in a special way, enveloping the whole body of a child in a graded manner from the shoulders down to the feet what helped the child to simultaneously feel the sound stream and his entire body. By the end of the first school year, Roman's titubation on certain sounds was already hardly noticeable. The class teacher has recognized that the boy could already express himself in the classroom without fear, could answer some questions or recite a short poem. His role among his classmates has also changed. He has practically

become a class leader: all the other children liked him very much, had respect for him and deferred to his opinion.

After the summer holidays and a natural break in the therapy we used to work with Roman for another two months to consolidate the result we have achieved.

In the autumn months we quitted Chirophonetic sessions as soon as the boy's speech became absolutely fluent and he stopped stammering.

Fig.1 Chirophonetics – a shape for sound «L»



Another example – Chirophonetic aid for children with delayed second dentition.

...Loose teeth – loose soul.

... Delayed second dentition – delayed soul development.

A fell-out primary tooth is a great joy for a child confirming that he has made a necessary step in his development and is ready for a new step in his life – school education. However, it doesn't always happen in time and with no trouble. Following a tradition each second-grade pupil of our Waldorf School in Salzburg under-

goes examination by an anthroposophic dentist Dr. Haupt during the second semester of the school year. The same thing happened at the beginning of 2017. The dentist discovered retained teeth in two second-grade pupils. The class teacher has recommended one of the mothers of those two children to turn to me in order to find out if it was possible to help her son to overcome this problem by means of Chiophonetics. In the course of the preliminary conversation with the mother before the therapy started I came to know that four front adult teeth of her son Simon have already fought their way through the gum, while his primary teeth were still there showing no tendency to fall out to make room for the new teeth. The mother told me that already two dentists had recommended her to pull the primary teeth out. And now the school dentist has recommended the same – to pull the teeth out. However, both the mother and the son would very much like to avoid surgical removal of the teeth and that was the reason the question arose whether or not it was possible to influence the process of second dentition with the help of Chiophonetics?

The parents of other children who also required Chiophonetic assistance in the process of second dentition used to approach me with the same question. A couple of years ago the mother of one second-grade pupil and me conducted chiophonetic therapy for the child: I did it at school, and the mother – at home. And within a couple of months we managed to push forward the process of second dentition. A similar case could be evidenced with my school colleague's son: after about three months of therapy the process of second dentition began to move forward rather quickly.

Selecting the mode of therapeutic treatment one had to take into account a few basic aspects in comprehension of the interrelationship of the process of second dentition with the overall development of the child's body. In many cycles of his pedagogical lectures Rudolf Steiner used to pay attention to the fact that the process of odontogenesis should not be considered separately.

Having fulfilled their task, the forces shaping the adult teeth are being transformed into spiritual forces that allow the con-

cepts to develop in one's thinking. However, if the child's intellect happens to be overloaded as early as the pre-school period this leads to the loss of vitality by the child's body. The same pedagogical lectures show us that odontogenesis may be influenced by means of making the fingers and the toes skillful and smart. In Chiophonetics we have an opportunity to reproduce the shapes of sounds on both fingers and toes helping them to become more skillful and smart, influencing thereby the process of odontogenesis. If the second dentition is delayed, the child frequently faces problems with concentration and consequent difficulties in his studies. In such cases the child is being treated with potentiated magnesium. It is known that burning magnesium produces bright light. In Chiophonetics the same effect as that of magnesium is typical for explosive sounds – they “explode” the matter and let the bright light inside. For example, one can use sound “K” or “P”. However, first and foremost the child's vitality should be strengthened. Conducting Chiophonetic therapy for Simon to solve the problem of the delayed second dentition, this goal was a priority for us. We started therapy with the audial row (L-U-M) in a special four-step form – from the shoulders to the feet in order to strengthen the child's vitality. Later on, aiming to improve the child's attention to his own «self» and his connection with his Angel, we applied special touches on the boy's back corresponding to the sounds of his name accompanying it by a phrase «You are Simon, your Angel loves you». The child's name was pronounced very slowly and the touches corresponding to each sound of his name (S-I-M-O-N) were applied on his skin. In addition to his name the mentioned phrase was being pronounced while soundlessly applying the shapes of the sounds (L-I). To complete the therapy we reproduced the shape of the sound “P” on his toes in order to use the explosive force of this sound to push out his primary teeth. Simon's mother was present at all the therapeutic sessions. She had a chance to observe what kind of an atmosphere there should be in the outer environment, what kind of a mood, what kind of therapeutic techniques were being used and what was the child reaction to them. Besides, adding some extra time

to the session, after the child had received his portion of therapy and gone away, I did the same sounds on her body that were selected for the boy in order to give her a chance to feel the influence of certain sounds herself. After that I instructed the mother on the technique of fulfilling every single sound required for her child and coached her in applying the touches on the human body. Only after that she could get down to independent Chirophonetic work with the child at home. Simon's mother and I used to provide Chirophonetic therapy to Simon from the end of February to the end of June with two breaks from 10 to 14 days – the reason for the first one was that Simon developed scarlatina, and the second time we had to suspend the therapy because of the two-week Easter Holidays. It means our work lasted a bit longer than three months.

I conducted therapeutic sessions for Simon once a week at the school premises and his mother repeated him the same sounds at home in the course of March on daily basis.

Consequently in order not to overload the mother we agreed that she would “do sounds” for Simon two or three times a week. All in all, the child received 11 chirophonetic sessions from me. In May, Simon's class teacher informed me that she could see positive changes in Simon while he was in class: he has become more poised, more attentive while listening to the teacher's rationale, turned out to be more sociable and showed dedication at the lesson. On the basis of these observations by the teacher one could say that our Chirophonetic therapy has resulted in some extra advantages for the learning process as soon as we haven't set any goals linked to the learning process within the framework of the Chirophonetic therapy for Simon.

However, second dentition has not yet started by then. Then the summer holidays approached what caused a long break in the therapy. Six weeks had already passed since our last chirophonetic session with Simon, when I received a letter from his mother: “Dear Ms. Kharitonova! We have promised to inform you as soon as we get some news. Here they are! Over the last few days Simon lost two of his four primary teeth – they fell out. And the third one

is rocking so violently that it can fall out at any moment!!! Without a dentist – without injections and surgical manipulations!!! This method of therapeutic treatment as well as commitment, patience and self-possession have proven their value, and my son is very happy!!!” I wrote a reply to her saying I was also very happy as soon as the child had lost his primary teeth the natural way – they fell out.

Chirophonetics is a method we thank Dr. Alfred Baur for, while commitment, patience and self-possession are the qualities the three of us – the mother, the boy and myself as a therapist – have shown all together. However, without the help of the child’s Guardian-Angel, without the help and facilitation of the nature of the essence of the sounds this therapy would not be effective!”

References 3.4:

1. Baur A. Lautlehre und Logoswirken – Grundlagen der Chirophonetik, Stuttgart, Mellinger Verlag, 1996, 2. Erg. Aufl.

3.5 Formation of active vocabulary in preschool children with supporting-motor apparatus disorders

The materials of this study are related to the problem of speech development of preschool children with supporting-motor apparatus disorders.

The structure of motor disorders. Preschool children with supporting-motor apparatus disorders (hereinafter referred to as the SMAD) make up a large group, variable in the features of development. I.Y. Levchenko, O.G. Prikhodko, A.A. Huseynova distinguish a large range of motor disorders, where minimal orthopedic disorders are at one pole, gross motor disorders of a neurological nature at the other [7]. Children with orthopedic motor disorders may have secondary cognitive impairments, but they are less in need of correctional assistance and can be successfully included in general developmental groups.

The category of motor disorders of a neurological nature includes children whose SMAD are caused by an organic lesion of the motor parts of the central nervous system. I.Y. Levchenko and O.G. Prikhodko [7] note that the majority of children with SMAD are children with cerebral paralysis (89%). Cerebral paralysis is a severe disease of the nervous system, which in recent years has become one of the most common diseases of the nervous system in children. On average, 6 out of 1000 newborns suffer from cerebral paralysis (from 5 to 9 in different regions of Russia) [7]. It is this category of children that makes up the overwhelming number in groups of compensating orientation in preschool educational organizations.

Speech disorders. In the complex structure of disorders in children with disorders of the musculoskeletal system, speech disorders occupy a significant place, the frequency of which, according to various authors, ranges from 65% to 85% [10]. The study of speech disorders in such children was carried out by L.A. Danilova, E.M. Mastjukova, I.A. Panchenko, E.F. Arkhipova, I.Y. Levchenko, O.G. Prikhodko and others.

I.Y. Levchenko, O.G. Prikhodko note that the features of speech disorders and the degree of their severity depend on various factors: localization and severity of brain damage (speech disorders in NODA are based not only on damage to certain brain structures, but also on the later formation of those parts of the cerebral cortex that are of crucial importance in speech and mental activity); motor pathology that limits the possibilities of movement and cognition of the surrounding world [8]. These researchers also highlight the features of the speech development of a child with cerebral paralysis:

1. The later formation of speech function is due to a delay in brain development: “young” areas of the cortex in children with cerebral paralysis complete their formation at a later date.

2. With cerebral paralysis, there is a delay and violation of the formation of all sides of speech: lexical, grammatical and phonetic-phonemic [ibid.].

I.Y. Levchenko notes that in children with SMAD, as a result of a violation of the functions of the articulatory apparatus, the phonetic side of speech is underdeveloped, the pronunciation of sounds is persistently impaired. At the initial stage of speech development many sounds are absent, in the future some of them are pronounced distorted or replaced by similar articulations [8]. All this leads to general slurred speech of children and significant difficulties in the process of forming an active vocabulary.

Our research is devoted to the study of the formation of an active vocabulary in children of middle preschool age with disorders of the musculoskeletal system in conditions of integration. The experiment involved 8 preschool children and 16 parents. To study the level of formation of an active vocabulary, we used a methodology for examining the state of vocabulary and the level of development of active speech in preschool children by E.A. Strebeleva, which contains a set of tasks:

1. "Name what I show you".

Purpose: to check the subject and verb vocabulary.

Equipment: pictures depicting objects found in a child's life: apple, cup, cat, car, carrot, coat, watch, candy; pear, pot, cow, ship, bow, scarf, fox, egg, bathrobe, sofa, elephant, plum, turtle, aquarium, statue. Pictures depicting actions familiar to children from their experience: reading, riding, feeding.

Examination procedure: the adult consistently invites the child to look at pictures depicting various objects of action and name them. In cases of difficulty, an adult asks to show a certain picture, and then name it.

Fixes: recognition of objects and actions depicted in the pictures; naming them independently or after the show.

2. "Name in one word". The ability to generalize objects and images in pictures in a word grouped by functional feature is tested.

Equipment: toys: a car, a bunny, a bear, a pyramid, a matryoshka; pictures depicting several items: vegetables, clothes, dishes, furniture.

Examination procedure: the child is offered to look at pictures of clothes, vegetables, toys and name them in one word.

Fixes: the child's ability to generalize, in a word, a group of objects.

3. "Say the opposite." The ability to use words denoting signs of objects is revealed.

Equipment: pictures of objects with opposite signs: healthy – sick, clean – dirty, white – black, thick – thin, high – low, big – small, fast – slow, close – far.

Examination procedure: the child is offered to pick up words-signs with the opposite meaning in a playful way. For example: "One boy has clean hands, and the other has what?," etc.

Fixes: the child's ability to select words denoting opposite signs of objects.

4. "Call it affectionately." The formation of the ability to form nouns with a diminutive suffix is checked.

Equipment: pictures of large and small objects: flower – flower, hat – cap, ring – ring, bench – bench.

Examination procedure: the child is asked to consider and name pictures of large and small objects.

Fixes: the child's ability to form nouns with a diminutive suffix.

5. "Conversation".

Examination procedure: the child is asked questions: "How old are you? What kind of toys do you like? What animals do you know? Do you have any animals at home? What's his name?"

The following are recorded: contact; the level of understanding of speech, the level of development of active speech [11].

Analysis of the survey results showed that out of 8 children, 5 children (62.5%) have a low level of formation of an active vocabulary. The speech of these children is characterized by onomatopoeia and individual short words denoting mainly objects and actions. The vocabulary of signs, word formation and generalization skills have not been formed in this category of children. 3 children (37.5%) showed an average level of formation of an active vocabulary. When answering, the children named most of the objects and actions in the proposed pictures, partially formed nouns with a diminutive suffix and generalized, in a word, the objects and images in the pictures. No children with a high level of active vocabulary formation were identified.

Implementation of structured correctional and developmental activities with children. Special material and technical conditions have been created here for children with SMAD, providing an opportunity for unhindered access of children with motor disabilities to the building and premises of the educational organization and their stay, as well as training and upbringing (ramps, handrails, specially equipped training places, etc.).

The content of the educational field “Speech development” of the Federal Standard of Preschool Education is aimed at the formation of children’s needs for speech communication and communicative skills. The main emphasis is on the formation and development of an active vocabulary [13]. The system of work on the development of an active vocabulary is implemented in the process of all regime moments and regular organized educational activities and includes stimulating the speech activity of children with SMAD, the development of cognitive prerequisites for speech activity, correction of speech motor disorders. [5].

It should be noted that according to the methodological recommendations of N.V. Simonova, the work of an educator and a special needs teacher on the development of an active vocabulary in the group is closely related [12]. The educator guides the development of speech and the expansion of active vocabulary in daily and productive activities, taking into account the peculiarities of children’s speech development.

The special needs teacher organizes and systematically conducts individual correctional and developmental work and various types of group organized educational activities aimed at the development of all aspects of speech: the development of lexical and grammatical categories; the development of phonetic and phonemic representations; the development of active speech skills, coherent oral speech; speech therapy rhythmic. All types of organized educational activities are carried out within the framework of the study of various lexical topics. [1]. Special attention is paid to individual correctional and developmental work, since all pupils of the group have different levels of existing disorders. By implementing an individual approach in the process of forming an

active vocabulary, the teachers of the group significantly increase the dynamics of each child's achievements. [5]. Specialists of the group in the process of formation and development of an active vocabulary widely use various methods and means, including theatrical activity. N.N. Chaldyshkina, V.A. Kozitsyna note that theatrical activity plays an important role in the speech development of children. Exercises for the development of speech, breathing and voice improve the speech apparatus. Theatrical games contribute to the activation of different aspects of their speech: vocabulary, grammatical structure, dialogue, monologue, the sound side of speech. The speech becomes more emotionally colored. Children learn to pronounce words, phrases and expressions [15]. In the process of theatrical activity and preparation for it, children develop communicative skills, as they begin to interact with each other, learn communication, empathy, empathy [15].

Integration using the M. Montessori's method. In order to increase the effectiveness of correctional and developmental work, to create favorable conditions for the inclusion of children in the active cognitive process, the group's specialists also actively use elements of the M. Montessori's method.

Developing the principle of accessibility, the group's specialists created a thoroughly thought-out and verified didactic environment. All items are arranged in a strict logical order. Furniture, materials - everything is at the level of children's eyes. The space is conditionally divided into several zones. The didactic zone adapts the child to practical life - tying shoelaces, buttoning and unbuttoning buttons, pouring water from one container to another. The sensory area contains materials for the development of the senses. The child learns to distinguish the weight, color, length, height of objects, i.e. to learn their properties. In the math zone, children master counting, memorize the names of geometric shapes, various mathematical concepts. In the speech zone there are manuals that are designed for the development of lexical and grammatical categories, phonemic hearing and perception, and vocabulary expansion.

Based on the realities of traditional teaching and upbringing in kindergarten, we have introduced several basic principles of Montessori groups into the work of the group, thanks to which correctional and developmental work becomes more effective:

1. All the material is available to children at any free time. The exception is the material with beads and other small objects: in the absence of a special needs teacher, it is removed.
2. Free choice of material for work, except in situations when it is difficult for a child to make a choice, or he needs some guidance from an adult.
3. Free choice of location, partner and duration of work with the material.
4. The presence of the same rules for all.

The method of project activity in working with the parents of pupils. R.N. Vereshchaga notes that one of the principles of the Federal State Educational Standard is the cooperation of the Pre-school Educational Institution with the family, providing psychological and pedagogical support and increasing the competence of parents (legal representatives) in matters of development and education, protection and promotion of children's health [2]. Therefore, in order to achieve the best results in the process of forming an active vocabulary in children, it is important for the specialists of the group to actively cooperate with the families of pupils, apply high-quality methods and technologies of work [13]. We believe that one of such qualitative methods is project activity [6]. Parents of children entering our compensatory orientation experimental group are most often confused by an overabundance of information about the formation of active speech skills.

The innovative component of our project is that, along with traditional forms of interaction, various technologies, including information and communication technologies, are used in the system of working with parents. It should also be noted that at present, the digital version of interaction, the remote format have acquired special importance, have become in demand due to the current difficult epidemiological situation in our country and in the world as a whole caused by Covid-19. The purpose of the

project: to unite the efforts of a team of specialists (special needs teacher, educator) and parents to form an active vocabulary for children of middle preschool age with disorders of the musculo-skeletal system attending a group of compensatory orientation of preschool education.

The results of the study. The final diagnosis of the level of formation of an active vocabulary in children, conducted at the end of the school year, revealed a significant positive trend (Table 1).

Table 1

Comparative data on the level of formation of an active vocabulary in children of middle preschool age with a SMAD at the initial and final stages of experimental activity

| № п/п | Initials of children | Initial stage | Final stage |
|-------|----------------------|---------------|--------------|
| 1. | I.N. | Medium level | High level |
| 2. | I.V.. | Medium level | High level |
| 3. | S.A. | Low level | Medium level |
| 4. | B.I. | Low level | Medium level |
| 5. | P.S. | Low level | Low level |
| 6. | S.D. | Medium level | Medium level |
| 7. | K.K.. | Low level | Medium level |
| 8. | P.M. | Low level | Medium level |

Comparison of diagnostic data carried out at the initial and final stages of experimental activity allowed us to record significant dynamics in the indicator “formation of an active vocabulary” in most children: high-level adherents were identified (25%), the dynamics from the medium level to high level was revealed in 25% of preschoolers, from the low level to the medium in 50% of preschoolers. Stagnation (low level at both initial and final stages; medium level at both initial and final stages) – 12.5% of preschoolers, respectively. The recorded dynamics in 75% of children confirms the effectiveness of the implemented system of work with the active use of project activity technology, ICT in interaction with preschoolers and parents of pupils. The majority of children have significantly expanded their active vocabulary of objects, actions and signs, formed the skills of inflection and

generalization. With preschoolers who have stagnation as a result of the diagnosis, and their parents, the work will continue on an individual basis.

The study was conducted for the development of inclusive education (involved experts: Chaldyshkina Natalia, PhD; Zaytseva Marina).

References 3.5:

1. Adaptirovannaya osnovnaya obrazovatel'naya programma Municipal'nogo doshkol'nogo obrazovatel'nogo uchrezhdeniya «Detskij sad № 24 g. Joshkar-Oly «Vesnyanochka» dlya detej s narusheniyami oporno-dvigatel'nogo apparata i DCP [Electronic resource]. URL: www.edu.mari.ru/mouo-yoshkarola/dou24/DocLib68/AOOII_HOIIA_18-19.PDF
2. Vereshchagina R.N. Netradicionnye formy vzaimodejstviya logopeda s sem'ej v korrekcionno-obrazovatel'nom processe v usloviyah DOU v kontekste FGOS DO [Electronic resource]. URL: <https://smollogoped.ru/netradicionnye-formy-vzaimodejstviya-logopeda-s-seej/>
3. Zajceva M.A. Ispol'zovanie elementov metodiki Marii Montessori v korrekcionno-razvivayushchej rabote s det'mi, imeyushchimi narusheniya oporno-dvigatel'nogo apparata // Tunyktyshe. Uchitel'. 2018. №3. S. 53-54. URL: <https://www.elibrary.ru/item.asp?id=36314591&>
4. Zajceva M.A. Rechevoe razvitie detej srednego doshkol'nogo vozrasta s narusheniyami oporno-dvigatel'nogo apparata / M.A. Zajceva, N.N. Chaldyshkina // Social'naya sfera. - Joshkar-Ola: Povolzhskij gosudarstvennyj tekhnologicheskij universitet, 2021. S. 216-219. URL: <https://www.elibrary.ru/item.asp?id=45936096>
5. Zajceva M.A. Sistema raboty po razvitiyu aktivnogo slovarya u detej srednego doshkol'nogo vozrasta s narusheniyami oporno-dvigatel'nogo apparata v usloviyah gruppy kompensiruyushchej napravlenosti / M.A. Zajceva, N.N. Chaldyshkina // Doshkol'noe detstvo. Joshkar-Ola: Povolzhskij gosudarstvennyj tekhnologicheskij universitet, 2021. S. 207-211. URL: <https://www.elibrary.ru/item.asp?id=45699450>
6. Zajceva M.A. Upravlenie proektnoj deyatel'nost'yu v doshkol'noj obrazovatel'noj organizacii pri rabote s det'mi srednego doshkol'nogo vozrasta s narusheniyami oporno-dvigatel'nogo apparata/ M.A. Zajceva, N.N. Chaldyshkina // Prioritetnye napravleniya psihologo-pedagogicheskoy deyatel'nosti v sovremennoj obrazovatel'noj srede. Joshkar-Ola: Marijskij gos. un-t, 2021. S. 524-529. URL: <https://www.elibrary.ru/item.asp?id=47415176>

7. Levchenko I. YU. FGOS obuchayushchihsya s OVZ: obuchenie detej i podrostkov s narusheniyami oporno-dvigatel'nogo apparata / I.YU. Levchenko, O.G. Prihod'ko, A.A. Gusejnova. M.: Nacional'nyj knizhnyj centr, 2018. 160 s.
8. Levchenko I.YU. Tekhnologii obucheniya i vospitaniya detej s narusheniyami oporno-dvigatel'nogo apparata: Uchebnoe posobie dlya stud. sred. ped. uceb. zavedenij. / I.YU. Levchenko, O.G. Prihod'ko. M.: Izdatel'skij centr «Akademiya», 2001. 192 s.
9. Montessori M. Deti - drugie /Per. s nem./ Vstup. i zakl. stat'i, komment. K.E. Sumnitel'nyj. M.: Karapuz, 2004. 336 s.
10. Prihod'ko O.G. Specifika rechevogo razvitiya detej s cerebral'nym paralichom // Special'noe obrazovanie. 2014. № 2. S. 107-112.
11. Psihologo-pedagogicheskaya diagnostika razvitiya detej rannego i doshkol'nogo vozrasta: Metodicheskoe posobie: s pril. Al'boma «Naglyadnyj material dlya obsledovaniya detej» / E. A. Strebeleva, G.A. Mishina, YU. A. Razenkova i dr.; pod red. E. A. Strebelevoj. M.: Prosveshchenie, 2004. 164 s.
12. Simonova N.V. Programma vospitaniya i obucheniya detej s cerebral'nym paralichom (doshkol'nyj vozrast) / N.V. Simonova. M.: Nauchno-issledovatel'skij institut defektologii APN SSSR, 1996. 75 s.
13. Federal'nyj gosudarstvennyj obrazovatel'nyj standart doshkol'nogo obrazovaniya [Electronic resource]. URL: <https://fgos.ru>
14. Fomina YU.S. Ustnoe narodnoe tvorchestvo kak sredstvo rechevogo razvitiya starshih doshkol'nikov / YU.S. Fomina, E.V. Aganina, N.N. CHaldyshkina // Problemy revitalizacii tradicionnoj kul'tury narodov Volgo-Kam'ya: sbornik materialov IX Vserossijskoj nauchno-prakticheskoy konferencii s mezhdunarodnym uchastiem, 28–29 noyabrya 2019 g. / Ministerstvo nauki i vysshego obrazovaniya Rossijskoj Federacii, FGBOU VO «Marijskij gosudarstvennyj universitet», Institut nacional'noj kul'tury i mezhkul'turnoj kommunikacii. Joshkar-Ola: Marijskij gos. un-t, 2020. S. 242-246.
15. Chaldyshkina N. N. Social'no-pedagogicheskoe soprovozhdenie reabilitacii detej s zaderzhkoj psihicheskogo razvitiya: monografiya / N. N. Chaldyshkina, V. A. Kozicyna, E. S. Nikitina; pod obshch. red. N. N. CHaldyshkinoj. Joshkar-Ola: Povolzhskij gosudarstvennyj tekhnologicheskij universitet, 2019. 160 s. URL: <https://www.elibrary.ru/item.asp?id=43102840>
16. Chaldyshkina N.N. Pedagogicheskie potencialy virtual'nyh social'nyh setej v rabote s det'mi i molodezh'yu / N.N. Chaldyshkina // Izvestiya YUzhnogo federal'nogo universiteta. Pedagogicheskie nauki. 2014. №3. S.119-127. URL: <https://www.elibrary.ru/item.asp?id=21354024>

